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ANNUAL REPORT

1 SEPTEMBER 2011 – 31 AUGUST 2012

INTEGRATED INITIATIVES FOR ECONOMIC GROWTH IN MALI (IICEM)
IQC # EDH – I-00-05-00005, TASK ORDER # 05

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TABLE OF CONTENTS

ACRONYMS.....	3
INTRODUCTION.....	5
EXECUTIVE SUMMARY	6
IMPROVED PRODUCTIVITY AND ENHANCED PRODUCTION	7
INCREASED ACCESS TO FINANCIAL SERVICES.....	7
IMPROVED ACCESS TO MARKETS AND TRADE AND IMPROVED COMMERCIALIZATION	7
PROMOTION OF A FAVORABLE ENVIRONMENT FOR AGRICULTURE, TRADE AND PRIVATE SECTOR DEVELOPMENT	8
PROMOTION OF ENTREPRENEURSHIP AND PRIVATE SECTOR INVESTMENT THROUGH IICEM'S STRATEGIC AND INNOVATION FUNDS.....	8
PROMOTION OF EQUITABLE OPPORTUNITIES FOR MEN AND WOMEN IN VALUE CHAIN DEVELOPMENT	9
ACTIVITIES IMPLEMENTED IN SYNERGY WITH OTHER PARTNERS	9
KEY ACHIEVEMENTS IN FY2012	10
ACHIEVEMENTS.....	11
REHABILITATION OF IRRIGATED VILLAGE PERIMETERS AND FLOOD-PLAINS	11
PROGRESS ACHIEVED TO IMPROVE PRODUCTION, PRODUCTIVITY, DIVERSIFICATION AND INTENSIFICATION OF TARGETED COMMODITIES	15
FOOD SECURITY INPUT PROVISION	15
MILLET/SORGHUM VALUE CHAIN	16
RICE VALUE CHAIN.....	19
OTHER ACTIVITIES TO DIVERSIFY PRODUCER REVENUES AND NUTRITION	22
IMPROVED SOIL MANAGEMENT FOR PRODUCTIVITY AND CLIMATE CHANGE ADAPTATION	24
IMPROVED PRODUCER ACCESS TO FINANCIAL SERVICES	24
IMPROVED ACCESS TO MARKETS AND INCREASED COMMERCIALIZATION	28
MILLET AND SORGHUM VALUE CHAINS.....	28
RICE VALUE CHAIN.....	30
PROMOTION OF A FAVORABLE ENVIRONMENT FOR AGRICULTURE, TRADE AND THE PRIVATE SECTOR	33
CAPACITY BUILDING FOR THE PRIVATE SECTOR	34
PROMOTION OF ENTERPRISE DEVELOPMENT FOR BENEFICIAIRES OF IICEM SPECIAL FUNDS	36
SUPPORT TO AGRO-ENTERPRISE EXPANSION USING SAF AND FAEI	36
CAPACITY BUILDING FOR AGRO-ENTERPRISES.....	38
ANALYSIS - MONITORING & EVALUATION	39
PROMOTION OF EQUITABLE OPPORTUNITIES FOR MEN AND WOMEN IN THE DEVELOPMENT OF VALUE CHAINS	46
PROCESSING AND COMMERCIALIZATION	46

CAPACITY BUILDING FOR WOMEN	46
ACTIVITIES IMPLEMENTED IN SYNERGY WITH OTHER PARTNERS	48
PROBLEMS/CHALLENGES TO OVERCOME	50
LESSONS LEARNED	51
ANNEX 1	53
SUCCESS STORIES	53

ACRONYMS

ANSSA	National Agency of Food Safety and Hygiene
ARPASO	Agricultural Producers and Rice Farmers Association in Western San
AVDRC	The World Vegetable Center
AVPA	Association of Agricultural Product Vendors
BDS	Business Development Services
BEACIL	Research and Technical Assistance Bureau for Local Initiatives
BNDA	Banque Nationale de Développement Agricole
BTC	Belgian Development Agency
CRRA	Regional Center for Agronomic Research
CRSP	Collaborative Research Support Program
CSV	Crop Storage-Based Credit (<i>Crédit Vivrier de Stockage</i>)
DAO	Call for Proposals
DNEF	National Forestry Service
DRA	Regional Direction of Agriculture
DRP	Regional Direction of Fisheries
E-ATP	Expanded Agribusiness and Trade Promotion, a USAID regional program
IF	Innovation Fund
FCFA	<i>Francs de la Communauté Financière Africaine</i>
FAMSOUDOUF	<i>Ferme Agricole des Moribabougou</i>
FTF	Feed the Future
GIE RCGOP	Economic Interest Group, Consultancy Network in Farmer Organization Management
GIS	Geographic Information System
GREFA	Group for Agricultural Research, Surveys and Training
GRM	Government of the Republic of Mali
GRN	Natural Resource Management
ha	Hectares (equivalent to 2.471 acres)
HACCP	Hazard Analysis and Critical Control Points
HIMO	High-Intensity Labor Teams
IER	Institute of the Rural Economy
IF	Fund for Innovative Agribusinesses
IICEM	Integrated Initiatives for Economic Growth in Mali
INTSORMIL CRSP	International Sorghum and Millet Collaborative Research Support Program
IPM	Integrated Pest Management
PIV	Irrigated Village Perimeter
kg	Kilogram
L	Liter
LOA	Law on the Orientation of Agriculture
m	Million
MAVEN	Mali Value Enhancement Network
MSMEs	Micro-, Small and Medium Enterprises
MT	Metric Tons
NGO	Non-Governmental Organization
NRM	Natural Resource Management
OMA	Observatory of Agricultural Markets
OP	Producer/Farmer Organization
OPAM	<i>Office des Produits Agricoles du Mali</i>
ORM	<i>Office Riz Mopti</i>
PRODEFA	<i>Appui au développement de la filière aquacole dans la région de Sikasso</i>
RIFAB	<i>Rizerie et Fabrique d'Aliments Bétail</i>
SAF	Strategic Activities Fund
SICA	Agricultural Collective Interest Company
SRI	System of Rice Intensification

TOT	Training-of-Trainers
UCAMHO	Union of Agricultural and Gardening Cooperatives of Horo
UCUTOHA	MTdibi and Ha Cooperative Union
UÉMOA	West African Economic and Monetary Union (Union Monétaire Économique de l'Afrique de l'Ouest)
UNCTAD	United Nations Conference on Trade and Development
USAID	United States Agency for International Development
USG	United States Government
USCPMD	Union of Maize Producer Cooperatives of Diedougou
WASA	West Africa Seed Alliance, a USAID regional program
WFP	World Food Program (of the United Nations)

INTRODUCTION

The Integrated Initiatives for Economic Growth in Mali (IIECM) project is USAID/Mali's flagship economic growth program under the Feed the Future (FTF) initiative. The IICEM program stimulates economic expansion in order to increase rural revenues, and improve food security through intensification of production, developing commercial markets for basic food security crops (millet, sorghum and rice) and expanding vegetable production to diversify rural incomes and improve household nutrition.

IICEM is implemented by Abt Associates, Inc., lead firm in a consortium composed of CARANA Corporation, Sheladia Associates, Inc. and ACDI/VOCA. Nationally, program activities are implemented in collaboration with public service extension agencies, civil society - including 6 local partner organizations, also called BDS providers (GREFA, PEENAL, RCGOP, AIID, BEACIL, USCPMD, and AMPRODE/SAHEL) - community organizations, and the private sector. In total, the implementation of IICEM program activities have involved the participation of 493 producer organizations and agribusinesses (195 in the North and 298 in The South), including private sector organizations and agricultural cooperatives, financial institutions, agricultural input suppliers and local consulting firms providing agribusiness development services.

During the course of the reporting period, IICEM and USAID/Mali reoriented program efforts to more closely address the objectives of the FTF strategy by limiting intervention zones to only those rural communities targeted by USAID/Mali, and by modifying the scope of technical programs to focus exclusively on: (1) value chains for millet, sorghum and rice, abandoning producers groups outside of FTF communes, and cutting the production area by around 6,000 ha of millet and sorghum; (2) activities in aquaculture, integrated rice/aquaculture (rizi-pisciculture) and vegetable production to diversify household income and improve nutrition; and (3) reducing the project implementation zone from 7 regions to 3 (Sikasso, Mopti and Timbuktu), which were effectively reduced to 2 regions following the rebel occupation of the North in early 2012.

Implementation of technical programs is based on a value chain approach, considered by the project to be the most effective strategy to achieve sustainable improvements in rural incomes and to ensure food security at the household and community levels. Specifically, the project undertakes activities in the following areas: (1) improving production and productivity by extending and rehabilitating irrigated cultivation, leading to the expansion and intensification of agriculture; (2) strengthening and expanding availability of financial services; (3) expanding market access and trade to increase the commercialization of targeted commodities; (4) promoting a favorable environment for agricultural, commercial and private sector development; and (5) promoting entrepreneurship and leveraging private sector investment through the project's Strategic Activity Fund (SAF) and Innovation Funds (IF).

All IICEM project activities are implemented with the objective of developing value chains which promote equitable opportunities for both women and men, and strengthen the ability of communities to become more resilient to the negative impacts of climate change.

Two regional offices (in Sikasso and Ségou) are responsible for coordinating technical activities and providing technical assistance to beneficiaries and implementing partners in FTF targeted zones in the Regions of Sikasso and Mopti respectively.

This report provides an overview of activities undertaken and results achieved during the period from 1 September, 2011 through 31 August, 2012, and is organized according to guidelines provided by the USAID/Mali economic growth team.

EXECUTIVE SUMMARY

During the third year of project implementation IICEM, in concert with its implementing partners and targeted beneficiary groups, realized significant progress in increasing rural incomes and developing a sustainable base for ensuring food security. During the one year period from August 2011 to August 2012, the number of partner producer organizations and community organizations has increased from 241 to 493 - representing 31,855 producers including 23,536 men and 8,319 women. In spite of a poor harvest and lower than anticipated yields due to poor rainfall and the unavailability of fertilizer, the commercial sales of targeted crops exceeded targets (29,748 MT as compared to a target of 24,100 MT); the value of sales were strongly influenced by the prevailing high market prices due to anticipated supply shortfalls. From FY2011 to FY2012, the total sales of all targeted crops increased from \$4.2 million¹ in to \$13.8 million (from 2.1 billion FCFA to nearly 7 billion FCFA) an increase of 229% - due in large part to the inclusion of partner cereal wholesalers, who sourced commercial sorghum and millet grain from a much wider production area than the IICEM target zones.

Gross margins represent a high-level impact indicator of IICEM program results, and these have continued to increase for basic cereals during the reporting period. Specifically, lowland rice production systems in Sikasso show a 57% increase in gross margins, from \$681/ha in FY2011 to \$1,072/ha in FY2012, exceeding targets by 134%. Gross margins for millet increased dramatically during the same period, from \$221 to \$448/ha in FY2012, exceeding targets by 178%. Rice from irrigated village perimeters (PIVs) increased by 20%, from \$1,247/ha in FY2011 to \$1,501/ha in FY2012, representing 93% of the target of \$1,610/ha. The increase in gross margins for 2012 was in part the result of the widespread adoption of improved agronomic practices, e.g. improved seed and judicious use of fertilizer (when available), but mostly due to the significant increase in market prices during a period of insufficient supply. Due to these high prices, the national and regional market dynamics of 2011-2012 enabled IICEM partner producer organizations to sell a lesser quantity of their paddy to make their loan payment. Thus despite a poor harvest, the producers still saw financial benefits.

In addition to increased margins for producers, other program results included improvements in quality. Specific product quality improvements in cereal grains as raw material for industrial millers were achieved in the course of IICEM efforts to increase structured trade in food commodities. Improved quality led to formalizing farm-gate sales agreements between producers and partner cereal wholesalers based on quality-requirement contracting (*cahiers des charges*), leading to sales with quality premiums from 10% to 30% over market value. IICEM support for the establishment of three semi-industrial rice mills provided an opportunity to better organize farm-gate sales as an element of increasingly structured supply chains for industrial milling operations of cereal grains for human consumption as well feedstock.

Overall, IICEM financing for infrastructure- including dams, warehouses, and small cereal mills - and technical training on improved productivity and product quality has enabled producers, processors, and consolidators to obtain skills necessary to increase their margins and improve productivity on multiple fronts. Productivity has been improved through intensification of cultivation and increased yields (production). The reduction of post-harvest losses through improved processing and storage has improved marketable quantities. Improved product quality control and quality assurance, reduced transaction costs through more efficient logistical management, and increased access to more remunerative commercial opportunities for producers including better strategic positioning on targeted

¹ All USD figures (\$) are based on an estimated 500 FCFA/1\$ exchange rate

markets have permitted producers to benefit from improved quantity of sales at higher prices.

IMPROVED PRODUCTIVITY AND ENHANCED PRODUCTION

Notable achievements during the reporting period which improved productivity and enhanced production were:

Extension of irrigated agriculture: In the region of Mopti, IICEM rehabilitated 11 sites, relining a total length of 11.4 kilometers of irrigation canals to support cultivation of 436 ha, and facilitated access to 20 water pumps. In the region of Sikasso, IICEM assisted in constructing 9 dams to provide irrigation to 486 ha for lowland rice production. In both regions, a total of 922 ha of irrigated lands were made available for cultivation by 2,575 rural households in the FTF targeted communities;

The expansion of cultivated areas devoted to improved millet and sorghum production by IICEM-trained producer organizations increased during the reporting period from 2,940 ha to 13,177 ha for millet, and from 175 ha to 12,117 ha for sorghum;

IICEM promoted improved aquaculture production management practices and installed 80 ha of vegetable gardens for 20 cooperatives supporting 1,325 producers, including 1,200 women, these gardens will enable the membership and their households to improve the nutritional quality of traditional diets while diversifying household income through sale of surplus produce ;

Project partners were also supported in the application of basic soil and water conservation techniques to improve land for millet and sorghum production, particularly in project zones of Koutiala and communes along the Bagoé River.

INCREASED ACCESS TO FINANCIAL SERVICES

During this reporting period, IICEM increased its guarantee fund in anticipation of a dramatic increase in the number of loan applications from the newly targeted FTF producer organizations, who were integrated into the project's scaled-up millet and sorghum program. However, due to the ongoing political crisis and wide-spread rebel incursions in the North, loans were not accessible to producer groups in either Mopti or Timbuktu. Moreover, due to the lack of availability of sufficient quantities of fertilizer on local markets, many producer organizations were unable to purchase fertilizer, and consequently refused to accept loans which had already been approved. Nevertheless, between September 2011 and August 2012, 101 loans were disbursed. The total value of these loans was \$2.09 million, including 93 IICEM-guaranteed loans valued at \$407,464 for agricultural inputs, and 8 loans valued at \$1.68 million for processing to wholesale partners, which were not guaranteed by IICEM.

IMPROVED ACCESS TO MARKETS AND TRADE AND IMPROVED COMMERCIALIZATION

IICEM's activities aimed at improving access to markets and improving commercialization of selected value chains focused on: (1) promoting, structuring and integrating farm-gate sales of targeted food commodities into increasingly structured, quality-based supply chains -the overall strategy being to leverage evolving commercial linkages in order to build raw material supply chains to serve value added market outlets, including both processed products and commercially traded grain; and (2) managing product quality, a process which begins (and is largely determined) on-farm.

In the Mopti region, the development of supply chain models targeted three semi-industrial rice mills established with IICEM support. These mills have provided a business platform as a basis for the organization of on-farm production in order to more effectively meet the specific quantity and quality requirements of commercial buyers (processing mills and cereal

wholesalers). In the Sikasso region, and to a lesser extent in Mopti, activities focused on millet and sorghum production, where cereal wholesales and consolidators provided a formal market for quality commercial grain. In these cases it is important to understand that most traditional production systems supplying commercial millet and sorghum are generally focused on ensuring household subsistence food security, and not on commercial sale of harvested grain. Accordingly, IICEM efforts to improve productivity, and to reduce production costs and post-harvest losses is intended to enable producers to progressively sell more of their production at higher prices, while ensuring food safety and product quality of harvested grain.

Global sales from targeted producer groups exceeded \$13.8 million (6.9 billion FCFA) during 2011-2012, as compared to \$4.2 million (2.1 billion FCFA) in 2010-2011, a very significant increase. During this reporting period, supply chain development for rice, millet and sorghum producers required the coordination of more than 400 producer organizations, cereal wholesalers and consolidators, cereal processors and NGO implementing partners. The overall quality of grains remained the main challenge. IICEM's field agent trained and monitored the improvement of quality over the harvest and stockage period. The best result was generated mainly by the farm gate sales of the farmers to IICEM's partner traders. The direct sales from the farmers remained low this year because of the decreased number of hectares of millet and sorghum supported by the project compared to FY10. As most of the areas supported in FY10 (nearly 7,000 ha) were not in FTF communes, they no longer received technical assistance and results could not be included. Another contributing factor in this reduction is the lower than normal harvest as a result of poor rainfall, low river water levels and scarcity of subsidized fertilizer. However, because of the widespread nature of lower than expected harvest, market prices significantly increased, thus enabling producers to repay bank loans for agricultural inputs with lower volumes of sales.

Gross margins for 2011-2012 were significantly higher than in 2010-2011. In general, the 31,855 IICEM supported producers and agri-businesses fared better than non-IICEM trained producers during the 2011-2012 growing season. This is primarily due to the technology package that IICEM's technical assistance is bringing to the supported producers, but it is also a premium of at least 10 % gained by clean quality grains. In the future, storehousing supported by IICEM in 2012 should further strengthen the ability of producer organizations to negotiate farmgate sales of quality cereals during the coming year.

PROMOTION OF A FAVORABLE ENVIRONMENT FOR AGRICULTURE, TRADE AND PRIVATE SECTOR DEVELOPMENT

During the past year, the IICEM transport and logistics specialist implemented lobbying, advocacy, and information dissemination activities for targeted value chain operators to improve the fluidity and efficiency of transport and trade in cereals - particularly for the rice, millet and sorghum destined for both domestic and sub-regional markets.

In addition, the IICEM business development and quality control specialists made significant progress in working with partner agribusinesses to improve the quality of commercial cereals, and to begin to develop quality assurance measures applicable to their respective supply chains. While these efforts engaged collectors and transporters in targeted supply chains, activities were also focused 'on-farm' to ensure that producer organizations are increasingly capable of responding to the quality requirements of clients and markets, and to begin laying a foundation for formalizing farm-gate sales to enable producers to increasingly profit from market opportunities offering premium prices for quality products.

PROMOTION OF ENTREPRENEURSHIP AND PRIVATE SECTOR INVESTMENT THROUGH IICEM'S STRATEGIC AND INNOVATION FUNDS

During this reporting period, IICEM financial services and business development specialists continued work with 18 partner enterprises, 9 of which benefitted from grants from the Strategic Activities Fund and Innovations Fund. Technical assistance addressed the development of: (1) focused, market-oriented business plans; (2) computerized commercial and operational databases to provide “real time” information for enhanced decision-making; and (3) better organized and more structured raw material supply chains, including contracting mechanisms for farm-gate sales of commercial grains meeting market quality requirements.

Despite a general decline in the private sector investment environment due to increased insecurity and perceived investment risks related to the coup d'état which occurred in late March and to subsequent rebel incursions in northern Mali, IICEM was able to leverage \$8.67 million in agribusiness investments with \$897,185 in disbursements from IICEM's two grant funds - a ratio of nearly 10 to 1.

PROMOTION OF EQUITABLE OPPORTUNITIES FOR MEN AND WOMEN IN VALUE CHAIN DEVELOPMENT

Activities promoting equitable access to opportunities in targeted value chain development were focused primarily on processing and commercialization. Training activities designed to strengthen technical and business skills for more than 2,000 women in Mopti, Bamako and Sikasso increased their economic opportunities in the rice, millet and sorghum value chains.

ACTIVITIES IMPLEMENTED IN SYNERGY WITH OTHER PARTNERS

The IICEM strategy is based on working in close collaboration with local implementing partners, both public and private. Unfortunately, following the coup d'état which occurred in late March 2012, IICEM was obliged to temporarily discontinue its collaboration with the public sector - thus re-focusing its efforts on activities carried out exclusively with the private sector, including producers, producer organizations, agribusinesses and development partners.

With the increased emphasis of FTF programs on improving household nutrition, and in concert with activities already being implemented to diversify household income, IICEM collaborated with the World Vegetable Center (AVRDC) to establish three demonstration gardens where AVRDC intends to demonstrate improved irrigation technologies for small-scale gardens, and to introduce a range of improved vegetable varieties suitable for local production, sale and household consumption. In Mopti, IICEM collaborated with *Caritas* (an International Catholic Humanitarian organization) in training of approximately 1,200 women and 125 men in 20 FTF villages in the use of locally produced vegetables (specifically legumes) in new manners as well as inclusion in traditional plates.

Aquaculture activities continued during the year, and IICEM collaborated with the USAID funded Winrock International/MAVEN project to provide members of a fish producer cooperative in Bougouni with technical training in techniques to reduce or eliminate water loss through seepage from fishponds, a frequent and recurring problem in the area. Following the training facilitated by IICEM, locally trained cooperative members were able to repair existing ponds to address seepage problems, and advise their neighbors as to the type of soil and construction techniques necessary to prevent similar problems.

Also during this reporting period, IICEM collaborated with AMASSA Afrique Verte to develop a millet and sorghum production best practices manual which will build producer capacity through increased productivity, reduced post-harvest losses, and product quality control.

KEY ACHIEVEMENTS IN FY2012

The following table (Table 1) illustrates some of the key successes IICEM achieved during FY2012 in the scaling up of its FTF value chain program. Particularly noteworthy is the dramatic increase in cultivated area of millet and sorghum under IICEM management, the overall increase in gross margins (particularly for millet), increases in beneficiaries and rural households benefitting from IICEM technical assistance, and the dramatic increase in leveraged private sector investment through the IICEM Strategic and Innovation Funds in FY2012 as compared to FY2011. Despite the insecure political environment during the last half of FY2012, IICEM was very successful in scaling up its FTF program - assisting partners to improve production, productivity, and revenues - while successfully promoting private sector investment in agri-business development.

Table 1: Percent Increase in Achievements for Key Performance Indicators in 2012 as compared to 2011

INDICATORS	Results FY11	Results FY12	Target FY12	% Increase FY11 to FY12
<i>Gross margin per unit (\$/ha, cumulative)</i>				
Millet	\$221	\$448	\$252	103 %
Sorghum	\$293	\$330	\$353	13 %
Lowland Rice (Sikasso)	\$681	\$1,072	\$800	57 %
Irrigated Rice (PIV)	\$1,247	\$1,501	\$1,610	20 %
<i>Number of hectares cultivated under IICEM management (old definition used for comparison) - new definition disaggregates and sums ha based on individual new technologies adopted</i>	10,708 cereals	36,451 cereals	27,240	134 %
<i>Number of members of producer and community-based organizations receiving support from IICEM</i>	17,238	31,855	30,000	85 %
<i>Number of rural households directly benefitting from IICEM intervention</i>	12,636	24,715	24,000	96 %
<i>Value of incremental sales (collected at farm-level) attributed to IICEM implementation (by commodity, \$, include volume)</i>	Incremental sales: \$1.5M Based on: \$4.2M 14,308 MT	Incremental sales: \$9.6M Based on: \$13.8M 29,748 MT	Incremental sales: \$5.5M Based on: \$9.7M 24,100 MT	175% 142 % 123 %
<i>Value of new investments by the private sector in agriculture or food chain leveraged by IICEM</i>	\$824,000	\$8.6M	\$8M	944 %

ACHIEVEMENTS

This section provides an overview of the results achieved during the year (September 2011 through August 2012) related to: (1) rehabilitation and extension of irrigated agriculture; (2) improved productivity and increased productivity of targeted crops, i.e. millet, sorghum and rice; (3) improved access to markets, and increased commercial sales of both grain and processed products (including improved quality control and quality assurance); (4) improved access to financial services; (5) extension of improved management practices for aquaculture and natural resource management; and (6) promotion of gender equitable opportunities in agriculture including off-farm employment in food processing and trade.

Of particular note was IICEM's success in implementing a major scaling-up of program efforts during FY2012 to meet FTF performance targets. In this regard, a major achievement in the production and productivity program component during 2011-2012 was the dramatic increase in the number of hectares under cultivation of millet and sorghum and rice under IICEM management, compared to 2011. During this reporting period, the total cultivated area for cereals attained 30,360 ha in August 2012, from 10,708 ha in August of 2011 – an increase of nearly 300% in a single year. Moreover, this figure does not include the 6,092 ha of rice cultivated with IICEM support in Timbuktu during 2011 and part of 2012, as the project was obliged to cease operations there following the prevalent insecurity of the current year.

REHABILITATION OF IRRIGATED VILLAGE PERIMETERS AND FLOOD-PLAINS

During this reporting period, IICEM program activities focused on providing improved irrigation infrastructure and technical assistance to build the capacity of local communities to take up improved water management techniques to intensify rice production in Mopti and Sikasso. IICEM invested in renovating and improving existing irrigation facilities and in developing new irrigation infrastructure in these regions of Sikasso and Mopti.

In the Mopti region, activities focused on locally formed high intensity labor teams (HIMO) working to rehabilitate and extend existing water delivery networks, and, in some cases to construct new irrigation infrastructure. In order to ensure effective implementation and quality of construction according to technical specifications, the community-based HIMO teams were supervised by project specialists and partner NGOs permanently stationed in the field. The improved canal systems have reduced water loss, opened up new lands for cultivation, and reduced pumping and other costs associated with water distribution, thus increasing efficiency of water use.

In Mopti, 11 irrigated village perimeters (PIV) were completed in 2012, encompassing 436 ha of cultivated area and over 11 kilometers of refurbished canals - thus providing improved production infrastructure and water and crop management practices to an estimated 1,700 producers, representing 1,296 rural households. Details of these activities and results are summarized in the following table (Table 2).

Table 2 – Sites for Rehabilitation of Irrigation Infrastructures for PIVs

Community	Site	Cultivated Area		Commentary
		Before	After	

Mopti	Nantaka	30	35	850 meters of canals were repaired in 2012, enabling the rehabilitation of 5 ha
	Troumou	0	88	Rehabilitation of 1,035 meters of canals enabling the rehabilitation of 80 ha that had been completely abandoned
	Saba	30	35	Repair of 1200 meters, enabling producers to increase their productivity where abandoning was eminent due to irrigation and productivity problems
	Kaniéo	30	30	Repair of 1100 meters reducing pumping costs and misunderstandings among members of the water management group
	Senséladji	32	33	Repair of 1200 meters, thus significantly reducing pumping costs
	N'Dissoré	36	36	Repair of 1000 meters, thus reducing pumping costs
	Komio	42	42	Repair of 1200 meters, enabling the rehabilitation of cultivable areas and reducing pumping costs
	Dofina/ Bagui	30	30	Repair of 1000 meters, 350 meters secondary canal and 650 meters of primary canal
Djenné	Kouakourou1	40	50	Repair of 1100 meters to rehabilitate 10 ha
	Kouakourou2	12	20	Repair of 900 meters enabling the rehabilitation of 8 ha
Timbuktu	Daye Mbanda	40	47	Repair of 800 meters, thus rehabilitating an additional 7 ha.
Total		322	446	

During this reporting period, IICEM's rehabilitation of irrigation infrastructure enabled the project to add an additional 124 ha for irrigated rice production – and a potential harvest increase of 552 MT of paddy (based on current yield of 4.84 MT/ha) for sale or household consumption. In addition, the project deepened 1,000 meters of the primary irrigation canal in order to re-establish the water supply for the irrigated village perimeter in Kouana, which had previously been abandoned. Complimenting these infrastructural improvements, 30 producers were trained in improved water management techniques and irrigation network maintenance to help ensure the operational integrity and sustainability of project investments over time.

Making Water Pumps Available to Irrigated Village Perimeters in the North

During the past year, IICEM facilitated the acquisition of water pumps for 20 producer organizations in targeted PIVs - with cost-sharing amounting to 90% for 11 pumps targeted for PIVs under rehabilitation this year, and 50% in for 9 of PIVs which were capable of mobilizing their payment of 50% of the purchase price drawing from their own internal resources. These pumps will enable the cultivation of 716.5 ha, thus and enabling the potential production of 3,475 MT of paddy annually for household consumption or sale, based on current yields of 4.85MT/ha.

Table 3 : The situation of loan reimbursement for Water Pumps as of 31 August, 2012

Producer Organizations (S.C.= Société coopérative)	Area	Number of Pumps	% Contributed	
			10 %	50%
S.C. du PIV de Troumou 1 et 2	88	2	2,000,000	
S.C. du PIV de Saba	33	1	1,000,000	
S.C. agricole de Senseladji	32	1	1,000,000	
S.C. Diaman d'Akka	44	1	1,000,000	
S.C. de Kaniéo	30	1	1,000,000	
S.C. du PIV de Nantaka	30	1	1,000,000	

S.C. Koro pondo de Kouakourou	40	1	1,000,000	
S.C. Kondole 1 de Fanabougou	30	1		5,000,000
S.C. Kondole 2 de Fanabougou	30	1		5,000,000
S.C. Bamafâ Kô MT de Doffina	30	1	1,000 000	
S.C. Laidou de Oua	31	1		0
S.C. Korombana Jigui de Korientzé	26	1		5,000,000
S.C. Doumbia Jigui Sèmè 1 de Korientzé	20,5	1		5,000,000
S.C. Deibata	35	1		5,000,000
S.C. Agricole de KOMIO	42	1	1,000,000	
S.C. Dounkafa de N'Dissorè	25	1	1,000,000	
To be determined	30	1		0
To be determined	90	1		0
To be determined	30 ²	1		0
TOTAL	716,5	20	11,000,000	25,000,000

For the 20 pumps, 16 repayments had been made as of 30/08/2012, including 11 subsidized at 90 % and 5 others subsidized at 50%. The purchase price for these pumps is \$20,000 (10 million FCFA) per unit. The 4 remaining pumps await payments by targeted producer organizations. Installation of pumps is currently under way for those having made their payments.



Operators being trained to maintain and repair a motorized waterpump cost-shared by IICEM/USAID

In the Sikasso region, the flood-plain production of rice is dependent on having sufficient surface water for the entire production cycle. Flooded areas additionally recharge the underlying water table, increasing well water levels for household and agricultural use during the dry months. Unfortunately, many low-lying production sites lack sufficient surface water due to successive years of drought, excessive water runoff, and the absence of basic infrastructure to retain and manage existing levels of surface water. These factors have led to many areas being abandoned, and a loss in cultivatable areas.

In Sikasso, a zone of relatively high rainfall - efforts focused on increasing the cultivated area available for rice (as well as other crops) through the construction of small dams. In these areas, water retention efforts were intended to increase the cultivated area under controlled water management, enabling producers to cultivate in areas that had previously

² 30 ha is an estimation based on other established sites.

been abandoned due to inadequate water availability. In general, project support to improve irrigation infrastructure and provide training in improved water and crop management practices has provided beneficiary communities with a more resilient and effective productivity platform in the face of uncertain impacts of climate change, including more erratic and reduced precipitation, higher temperatures, an increasing frequency of extreme weather events.

During 2012, IICEM constructed 8 new small dams in FTF communities, and completed a dam begun in 2011 in Siramana for a total of 9 dams completed in 2012. These water management infrastructures have increased the cultivable land by 254 ha (potentially increasing paddy rice production by 434 MT annually, based on current yields of 1.78 MT/ha), providing a total of 486 ha for intensive rice production by 1,200 women farmers in the targeted FTF communities. The following table provides details by site of cultivable acreage recuperated by IICEM infrastructural development.

Table 4 : Dams constructed by IICEM in 2011- 2012

Community	Site	Area before (Ha)	Area after (Ha)	Commentary
Fama	Siramana	45	101	Begun in 2011 and completed in 2012, the dam consists of 4 sluice gates and a protection dike enabling the direct irrigation of 101 ha for rice and vegetable production. An additional 269 ha can be irrigated indirectly, enabling rice production on a total of 370 ha.
Finkolo Ganadougou	N'Golonina	25	45	Constructed in 2012, the dam consists of 1 sluice gate enabling the village of N'Golonina to produce rice on 45 ha. The village can increase total production on 80 ha following the recuperation of new land.
Finkolo Ganadougou	Wogan	22	50	Constructed in 2012, the dam consists of 1 sluice gate enabling the production of rice on 50 ha. The cultivable area can be extended to include 145 ha with the recuperation of new land.
Gongasso	Korowédougou	20	45	Flood-plain totally abandoned for more than 10 years. Construction enabled a new start-up of rice production and the opportunity for 2 villages to undertake vegetable production activities.
Niéna	Kongolikoro	20	50	Constructed in 2012, the dam of 1 sluice gate enables rice production on 50 ha and created conditions for vegetable production. This dam restarted rice production in a severely degraded flood-plain area.
Miniko	Badiana	25	50	Constructed in 2012, the dam consists of 1 sluice gate enabling rice production on 50 ha. In addition, 25 ha can be added by recovery of adjacent land.
Zégoua	Korédougou	30	50	Constructed in 2012, the dam consists of 1 sluice gate enabling the production of rice on 50 ha. In addition, a permanent pond has been created that favors the natural establishment of fish and near-by vegetable production.
Lobougoula	N'golokasso	15	50	Constructed in 2012, the dam consists of 1 sluice gate enabling the production of rice

Table 4 : Dams constructed by IICEM in 2011- 2012

Community	Site	Area before (Ha)	Area after (Ha)	Commentary
				on 50 ha, even in times of low rainfall. The cultivable area can be extended to an additional 30 ha with the recuperation of adjacent land. This dam is well-suited to the establishment of integrated fish and vegetable production.
Pimperna	Zanikodougou	30	45	Constructed in 2012, the dam consists of 1 sluice gate enabling the production of rice on 45 ha, as well as vegetable production.
Total Surface Area:		232	486	

PROGRESS ACHIEVED TO IMPROVE PRODUCTION, PRODUCTIVITY, DIVERSIFICATION AND INTENSIFICATION OF TARGETED COMMODITIES

In order to increase cereal production within the program area, IICEM has continued relationships with 7 NGOs and local private sector extension and training agencies (GIE) to provide training and technical assistance to producer organizations on a continuous basis, both in the North and South, to facilitate cultivation of millet, sorghum and rice on about 30,360 ha. As the current growing season is still underway, yield and harvest data is not yet available.

Food Security Input Provision

As a result of the socio-political crisis which began earlier this year, resulting in the cessation of normal banking activities in the Mopti region and the lack of adequate quantities of subsidized fertilizer on local markets, USAID requested IICEM to provide partner producer organizations in the Mopti region with a portion of their production inputs for the 2012-2013 growing season in particular, in order to ensure that these organizations can profit from the 2012 planting season. These inputs ensured the production of 9,856 MT of rice and 7,003 MT of millet for 10,561 producers (8,611 men and 1,950 women), representing approximately 8,009 rural households. Sustainability plans have been developed to ensure that this investment will be transformed into a revolving agricultural capital fund to be managed by the cooperatives themselves supporting future input investments.

Table 5: Communities receiving Critical Food Input Assistance

	Cercle	Commune	No. Cooperatives	Ha
Rice	Djénne	Dandougou Fakala	3	72
	Djénne	Djénne	1	15
	Djénne	Fakala	1	12
	Djénne	Femaye	1	40
	Djénne	Kewa	3	75
	Youwarou	Youwarou	1	40
	Youwarou	Dirma	3	78
	Youwarou	Dongo	8	302
	Youwarou	N'Dodjaga	10	313
	Mopti	Dialloubé	2	50

	Mopti	Konna	4	149
	Mopti	Korombana	19	475
	Mopti	Kounari	2	51
	Mopti	Socoura	2	121
	Sub-Total		60	1,792
Millet/ Sorghum	Bankass	Bankass centrale	12	936
	Bankass	Baye	3	450
	Bankass	Dimbale	8	676
	Bankass	Kani-Bonzon	1	60
	Bankass	Koulogo	9	437
	Bankass	Lessagou	6	280
	Bankass	Ségué	4	240
	Bankass	Sobala	1	120
	Koro	Barapréli	5	328
	Koro	Bondo	5	225
	Koro	Dougoutènè I	5	270
	Koro	DougoutènèII	3	226
	Koro	Koprana	6	720
	Koro	Kopropin	5	333
	Koro	Koro centale	5	400
	Koro	Pel Maoudé	2	135
	Koro	Youdiou	2	164
	Sub-Total		82	6,000
	Total			142

Millet/Sorghum Value Chain

For the 2012 growing season, IICEM and its field partners supported, trained, and provided technical assistance to millet and sorghum producers for the cultivation of 25,294 ha. Over the past year, 11,372 men and 2,154 women were trained and supported by IICEM and its partners for on improved agronomic practices in the Mopti and Sikasso regions.

Development of Seed Cooperatives and Agribusinesses

A major constraint to the intensification of millet and sorghum production is the limited availability of improved seed of high-performing cultivars of these crops. To support improved intensification of millet and sorghum, IICEM supported certified seed production with experienced seed producing cooperatives. In support of this activity, the project signed contracts for the production of several well-tested, high performing varieties of millet and sorghum with Bondo-Tena, a producer organization in the Mopti region, and with the Union of Maize Producer Cooperatives of Diedougou (USCPMD), located in the Dioïla Cercle. It is anticipated that the volume of improved seed produced this year by the two cooperatives will be sufficient to plant approximately 25,000 ha of millet and sorghum in 2013, for an anticipated yield amounting to some 28,500 MT.

In this regard, the Bondo-Tena cooperative in Koro-Bankass (Mopti) produced 20 ha of the high performing Toroniou millet variety - a quantity sufficient for planting 2,400 ha during the next planting season (included in the total volume of improved seed noted above). In Sikasso, a partnership with USCMPD has enabled the project to train 376 seed producers in seed replication using best production practices and internal control systems for seed certification, post-harvest processing, and storage of millet and sorghum seed. The production contract between IICEM and the Union specifies the planting of a minimum 150 ha, but the Union ultimately planted 154 ha with various high-performing varieties, including 58 ha with foundation seed for the production of R1 (first generation multiplication seed) and

96 ha with first generation seed (R1) for the production of R2 (second generation multiplication seed).

Ensuring access to quality seeds is essential in developing a stable value chain; before IICEM's intervention there was no large scale reproduction of R1 millet/sorghum seeds. Seeds classified as "G", currently "G4" are a seed base which originate from research facility stocks. The first generation of seed from "G4" is R1, a first generation multiplication seed. Because this seed is produced directly from improved seed, the plants and seed it produces have higher and more consistent yields and characteristics. Anticipated yields are estimated at approximately 1.2 MT/ha, or about 185 MT of R1 and R2 - a sufficient quantity for planting approximately 23,000 ha during the 2013 season. Details of IICEM's seed production program for 2011-2012 are provided in the following table.

Table 6 : Production of Improved Seed by Variety and Class

Seed, Class G4 (foundation 4th generation)	Area (ha)	Seed, Class R1 (multiplication, 1st generation)	Area (ha)
Soumba (sorghum)	14	Soumba (sorghum)	45
Grinkan (sorghum)	14	Tiandougou (sorghum)	2
Tiandougoucoura(sorghum)	5	Tiandougoucoura (sorghum)	18
Hibrides (sorghum)	10	Diacoumbe (sorghum)	1
Sanioba (millet)	15	Toronion (millet)	30
Total	58		96

Development of Producer Cooperatives and Agro-enterprises

During this reporting period, activities related to the development of producer cooperatives and agro-enterprises primarily focused on monitoring cultivation practices, the harvest of millet and sorghum from the 2011 growing season, land preparation, training, and monitoring the application of improved agronomic practices for the 2012 growing season.

In the Mopti region, activities focused on training and monitoring the application of improved practices, i.e. optimal weeding schedules, micro-dosing of urea at 50 kg/ha, and best practices for harvest and storage. For the 2011 growing season, the cultivated area using fertilizer (complex, DAP, and urea) was 2,182.5 ha out of a total area of 2,940 ha compared to an expected area of 3,000 ha. The number of producer organizations supported during the 2011growing season was 39. The total volume of millet produced was 3,356.87 MT (1,800.39 MT at Bankass and 1,556.48 MT at Koro), with a yield of 1.14 MT/ha. For the 2012 growing season, IICEM activities cover 17 communities and 82 producer organizations in Bankass-Koro (44 in Bankass and 38 in Koro) for a cultivated area estimated at 6,000 ha, approximately twice the surface area cultivated during the 2011growing season.

In addition to technical assistance provided by IICEM and its BDS providers and NGO field partners, producers received a project subsidy for 583.6 MT of fertilizer (291.8 MT of complex DAP and 291.8 MT of urea) to support improved productivity on an estimated 6,000 ha for 82 producer organizations representing 5,836 members (including 1,686 women), and 4,344 rural households. To date, crop production has progressed normally, and IICEM's NGO partner in Koro-Bankass, AMPRODE-Sahel, continues to provide technical assistance to producers, currently focusing on the correct application techniques for fertilizer.

In the Sikasso region, IICEM has ramped up the intensification of millet and sorghum production, engaging large producers in all FTF targeted communities. This process has involved: signing service contracts with three BDS providers in Bougouni, Koutiala, and Sikasso enabling the project to identify and sign partnership agreements with 301 producer organizations representing 8,511 millet and sorghum producers; and training 2,835 millet

and sorghum producers in best agronomic practices and crop management, e.g. in efficient use of inputs, use of improved seed, and respecting the optimum cropping calendar for millet and sorghum.

These production-oriented activities enabled IICEM trained producers to cultivate 19,294 ha in 2012 (7,177 ha in millet and 12,117 ha in sorghum), compared to a planned 11,000 ha. Total anticipated production for 2012 is estimated at 20,784 MT³ of millet and sorghum, as compared to an initial target of 15,600 MT. This increase is essentially due to an expansion in the area cultivated resulting from the introduction of new villages in communities targeted by FTF where IICEM had not previously worked.

The following table provides details of the progressive increase in cultivated areas for millet and sorghum production.

Table 7 : Cultivated Area (ha) for Millet and Sorghum Production in Mopti and Sikasso regions supported by IICEM in 2012 (Including 2011 Sikasso non-FTF communes)

Crop – Zone Geographic	2011 realized (ha)	2012 Target (ha)	2012 Achieved (ha)	% Achieved	Comment
Millet (Mopti)	2,940	6,000	6,000	100 %	100% of the target was achieved for 2012. There was strong support among producer organizations for IICEM's market-based approach.
Millet (Sikasso)	1,099	3,500	7,177	205 %	Cultivated area was significantly higher than targeted due to IICEM's ramping up to include a large number of FTF communities, (not foreseen in the workplan) & strong producer demand to participate in the program.
Sorghum (Sikasso)	4,395	7,500	12,117	161%	Note above: Includes previous non FTF communes to better compare the field work and growth effort
Subtotal (Sikasso)	5,494	11000	19,294	175%	Note above: Includes previous non FTF communes to better compare the field work and growth effort
Total	8,434	17,000	25,294	149%	Overall, IICEM exceeded cultivated area targets by 149% for 2012.

Activities to develop and diffuse grain quality requirements of wholesalers and processors to producer organizations.

In order to establish more formal commercial relations between producer cooperatives and wholesalers, IICEM adopted a strategy to promote a process of contracting farm-gate sales according to specific quality requirements as requested by wholesale buyers. Consequently, wholesaler-producer contracts were to specify not only the context for collaboration between the two parties (such as time of sales, prices, delivery schedules, etc.), but also the qualitative and quantitative requirements for commercial grain (product quality specifications and required tonnage). To facilitate this process, and progressively establish trust between the two parties, initial efforts focused on four areas. The first was recognizing that formal contracting is a process requiring time and experience to achieve success. Second build understanding that contracts need to evolve over time, according to market demand

³ Based on actual yields from 2011, total production is estimated at: 7,177 ha x 1.14 MT/ha = 8,182 MT of millet and 12,117 ha x 1.04 = 12,602 MT of sorghum. Total = 8,182 + 12,602 = 20,784 MT.

requirements and the level of risk each of the two contracting parties is willing to accept (initial contracts have covered only basic quantity and quality criteria). This was followed by strengthening the technical capacity of producer cooperatives to respond to contract quality criteria through training and demonstrations. Based on the first three items, it was possible to identify value added opportunities on commercial grain markets for participating wholesalers. Of the 6 initial supply contracts signed in 2012 between wholesalers and cooperatives, 4 were executed according to agreed-upon conditions for 389 MT of commercial grain, including the payment of an additional premium for product quality according to agreed criteria. These activities began a process of formalizing farm-gate sales for rainfed cereals, and the established mutual confidence and “commercial credibility” which reinforces commercial relations between producer cooperatives and cooperating financial institutions such as the BNDA.

Rice Value Chain

During the 2011 rainy season, IICEM and its GIE and BDS-providing partners trained rice producers in Mopti and Sikasso to support the cultivation of 10,059 ha, including 2,625 ha in PIVs, 4,700 ha in flood-plains of Timbuktu and 2,734 ha in flood-plain areas in Sikasso. In the northern zones, implementing partners provided technical assistance and training for the members of 93 cooperatives representing 11,821 members, cultivating a total of 7,325 ha of rice for a harvest of 22,123 MT of paddy. In Sikasso, implementing partners provided technical assistance and training to 8 women’s cooperatives representing 3,075 members, cultivating a total of 2,734 ha for a harvest of 4,675 MT of paddy. The total paddy production from both zones during 2012 amounts to 26,798 MT for a total of 10,701 producing households.

Increased Production and Trade by Cooperatives and Agribusinesses

In Mopti, activities focused on technical assistance and monitoring of agronomic practices and training and assistance to producer organizations to determine their production costs for the 2011-2012 growing season. In 2011-2012 cultivated areas involved a total of 7,325 ha, including 2,625 ha in the PIVs – 1,233 ha for Mopti, and 1,392 ha for Timbuktu - and 4,700 ha for flood-plain production in Lake Horo. The total volume of production for 2011-2012 was 22,123 MT, including 12,723 MT in the PIVs – 5,898 MT for Mopti, and 6,825 MT for Timbuktu - and 9,400 MT for the flood-plain production in Lake Horo. Yields were 4.78 MT/ha for Mopti, 4.9 MT/ha for Timbuktu and 2MT/ha in the flood-plain areas of Lake Horo. The reduced yields noted in 2011 were the result of lower than normal water levels in the Niger River, complicating water management efforts and the late provision of fertilizer, making optimal application impossible. Off-season production involved 232.25 ha in Mopti for 11 producer organizations.⁴

Due to the a lower than anticipated harvest in 2011, and in order to prevent a similar occurrence in 2012 – which would have devastating consequences for Mali’s food security situation given the prevailing insecurity and political turmoil -USAID requested IICEM to subsidize production inputs, i.e. improved seed and fertilizer, for a large number of IICEM-trained producer organizations. Specifically, IICEM provided 358,000 L of diesel, 2,862 L of lubricant oil to run motorized water pumps as well as 852 MT of fertilizer and 45 MT of seed for 61 producer organizations representing 4,523 producers, cultivating a total of 1,792 ha. In all, rice value chain activities in Mopti targeted 4,658 producers, including 264 women, representing 3,665 households and cultivating 1,840 ha.

In addition, a training-of-trainers program on application of improved agronomic practices for rice was implemented to serve 39 members of producer organizations that benefitted from

⁴ Production and yield data will be presented in the next quarterly report.

IICEM-financed infrastructural development. These trainers subsequently undertook training of other members of the participating producer organizations in turn.

In Sikasso, IICEM continued to provide technical assistance to women's producer organizations on improved techniques to intensify rice production in lowland, flood-plain areas. These activities included not only support to cultivation in previous sites, but also in new locations benefiting from IICEM-financed water management infrastructure. Specifically, through these activities IICEM identified and integrated new women's producer organizations, along with previous partner organizations, into technical assistance efforts to promote flood-plain rice production. Additionally, IICEM organized and assisted women to procure production inputs, specifically fertilizer, trained women in best agronomic practices for flood-plain production (use of improved seed, fertilizer and herbicides, practices to maximize plant density, etc.), and introduced women's producer organizations to new, improved seed varieties, well-adapted to lowland, flood-plain production - e.g. Nerica L1/L2.

Overall, rice value chain activities enabled 17 women's organizations to benefit from IICEM technical assistance, an increase from 9 organizations in 2011, representing 3,843 women and 2,220 households. This technical assistance program has enabled the members of these organizations to cultivate 3,225 ha of rice in June 2012, which is 725 ha in excess of the target. In the harvest period of December 2012-January 2013, the total production is expected to be approximately 6,450 MT⁵ of paddy (at 2 MT/ha), compared to 4,675 MT harvested in the period of December 2011-January 2012, thus increasing overall production by 59% in 2012 as compared to 2011. The following table (Table 7) provides details for the area cultivated during 2012 for rice production.

Table 8: Number of hectares cultivated for rice by partner organizations in Mopti and Sikasso

Value Chain	Area (ha) cultiv. 2011	Target (ha) cultiv. 2012	Area (ha) cultiv. 2012	% Achieved	Remarks
Rice, Mopti	1,233	1,570	1,840	117%	The target was exceeded primarily by areas recuperated from irrigation infrastructure improvements involving both new and previous sites. In addition, the number of participating producer organizations increased from 53 to 61
Rice, Sikasso	2,734	2,500	3,225	129%	Cultivated areas are rapidly increasing due to the extension of activities into FTF communities identified after workplan development, and areas newly cultivated due to the completion of water management infrastructure (dams)
Total	3,967	4,070	5,065	124%	Cultivated areas for rice production under IICEM support, exceeding 2012 targets by 124%, and 2011 results by 127%

Continuing Expansion of SRI Technologies (System for Intensive Rice Cultivation)

During 2011-2012, the project continued to extend System for Intensive Rice Cultivation (SRI) technologies, covering an area of 28 ha, including 11 ha in the Mopti region (serving 23 producers affiliated to 6 producer organizations), and 17 ha in Timbuktu. In Mopti, the average yield was 6.61 MT/ha (the average yield seen by the project for the year was 4.85 MT/ha), with a total production of 73.35 MT. While these yields were significantly higher than the average yield, not all aspects of the SRI technology are used, based on the availability of resources, like fertilizer. Thus, it is possible for this yield still increase. In

⁵ Assuming the same yields as in 2011.

addition, the project organized a training program for 30 participants concerning the use of motor cultivators for extension of SRI technologies on large areas.

Introduction of new threshing and milling equipment for rice producers in flood-plain areas

During 2012, the project has worked with women's producer organizations to improve the quality and marketing of their processed rice. Related activities included the procurement of threshing machines and relative training.

The project procured three threshing machines for three women's producer groups that produce and market relatively large quantities of rice. The groups were selected based on the ability to manage their organization in a transparent and service-oriented manner, and their ability to mobilize 10% of the purchase cost of threshing machines. The three groups selected according to these criteria were the *Coopérative des Femmes Rizicultrices de Nièna*, the *Association des Femmes de Loutana*, and the *Coopérative des Femmes de M'Pegnesso*.

Training was completed for designated operators of threshing machines to ensure adequate



M'Pegnesso Women's Cooperative using their thresher

maintenance and management of the equipment. Forty women and seven men benefitted from the trainings, while the threshers benefitted 1,033 women in the three target groups.

The provision of this equipment has resulted in significantly reducing the time necessary to thresh paddy, while significantly increasing product quality due to reduced breakage and a lower proportion of impurities in the threshed rice. The equipment has also enabled the women to concentrate more of their time on milling and marketing activities, and to increase their revenues from the sales of high quality threshed rice, paddy rice sells for 150 FCFA/kg while threshed rice can sell for 275 FCFA/kg (179 FCFA/kg when considering weight loss in the calculation).

Other Activities to Diversify Producer Revenues and Nutrition

During this reporting period, IICEM also implemented activities aimed at diversifying household revenues and nutrition.

Establishment of Vegetable Gardens and Introduction of New Technologies

In the **Sikasso Region**, the project implemented a large-scale program in 2012 to promote vegetable production as a mechanism to both improve nutrition through increased dietary diversity and to diversify household income through marketing of surplus produce. Specifically, 20 vegetable gardens were created including a well dug for each, and fenced in, in targeted FTF communities of Bougouni, Koutiala and Sikasso. Additionally three demonstration gardens were created in collaboration with the World Vegetable Center (AVDRC) to promote diffusion of new and efficient irrigation technologies, agronomic practices and seed for a variety of vegetables (e.g. red pepper, cabbage, tomato, onion and okra.) for village-level vegetable production in 3 FTF communities.

In total, 80 ha were established for vegetable production by more than 1,200 women and 125 men in 20 selected FTF villages. Specific details of these activities are provided in the following table:

Table 9 : Vegetable Gardens Developed by IICEM in FTF Communities in Sikasso

Commune	Community	Village	Area (ha)
Bougouni	Doumba	Blendougou	4
	Faragouaran	Sebirila	4
	Faradiélen	Faradiélen	4
Sikasso	Diomaténé	M'Pegnesso	3
	Kafouziéla	Zoloko	3
	Fama	Kouroumasso	4
	Fama	Siramana	5
	Finkolo Ganadougou	Gladié	5
	Finkolo Ganadougou	Finkolo Ganadougou	5
	Finkolo Ganadougou	Bankorobougou	5
	Finkolo Ganadougou	MTokala	5
	Finkolo Ganadougou	N'Kolonina	5
	N'Tjikouna	N'Tjikouna	4
Kadiolo	Loulouni	Loulouni	3
	Zegoua	Koredougou	5
	Kadiolo	Sama	3
Koutiala	Zangasso	N'Tosso	4
	Sorobasso	Sorobasso	4
	Kapala	Kapala	2
	Koloningué	Molobala	3
TOTAL			80

In the **Mopti** region the project provided a range of vegetable seeds, including eggplant, cabbage, cucumber, red pepper and tomato to 63 women members of the Société Cooperative Benkadi de Bagui and to 73 women members of the Société Cooperative Ben So de Kouin, and some basic gardening equipment, including wheel barrows, shovels, pails,

rakes, watering cans, etc. Commercial linkages were also established between cooperatives and input suppliers in Mopti. This assistance enabled the women in both cooperatives to produce 714 kg of various vegetables on 0.3 ha. More than half of production was consumed at home and the remainder sold in local markets, bringing in revenues totaling over \$3,150, over \$23 per woman. In addition, 150 members of the two cooperatives were trained in preparing several recipes for nutritious complementary foods for children from 6 to 24 months based on locally available nutrient-dense foods along with locally produced vegetables.

Aquaculture and Integrated Agro-Aquaculture (Riz-Pisciculture)

Integrated agro-aquaculture (riz-pisciculture) activities undertaken in the regions of Mopti and Sikasso during the past year focused on training and field visits, pond construction, and providing technical assistance.

IICEM provided training and technical capacity building for 84 producers and potential fish producers, 36 in Sikasso and 48 in northern regions, using formal training sessions and field exchange visits to see integrated rice-aquaculture demonstrations in Baguineda. Additionally a field visit was organized for the co-director of PRODEFA, the project of the Belgian Development Agency (BTC), and the regional director of fisheries in Sikasso to all of the IICEM aquaculture field sites in order to ensure continued technical support for the program beyond closure of IICEM activities.

Nine new fish ponds were constructed, and five existing ponds were rehabilitated in Sikasso. In Mopti a demonstration site for best practices in rice-aquaculture was completed. Supporting these activities, feasibility studies to assess two seasonal ponds for integrated agro-aquaculture production in Sikasso were undertaken.

IICEM also provided technical and basic equipment for several fish producing organizations. Technical assistance and breeding male Nile tilapia (*Oreochromis niloticus*) fingerlings were provided to selected sites in Sikasso and Mopti, along with basic fish feed concentrates and training in fish feed formulation. Demonstration sites were established in Mopti and Gao for rice-aquaculture activities, and supporting technical assistance was provided in Mopti and Gao as well as Timbuktu. Basic equipment for the transport of fingerlings was provided to NGO field partners (BDS providers) in Timbuktu and Gao to support both aquaculture and integrated rice-aquaculture sites, in order to facilitate the distribution of fingerlings to producers, and the subsequent harvesting of fish.

Training and on-site demonstrations for both men and women producers during the past year had the following outcomes:

- An increase in the fish ponds in the Sikasso region from 2 ponds in 2010 to 15 ponds in 2012;
- The area used for integrated rice-aquaculture increased from 0.245 ha in 2010 (test) to over 0.88 ha in 2012;

In spite of continuing constraints to seeding ponds with fish due to lack of fingerlings, cessation of technical assistance to Gao due to security concerns, and generally low pond fertilization rates, the following impacts were achieved during this reporting period:

- over 550 kg of mature fish were harvested for consumption and sale on local markets, bringing in revenues of \$1,343 (671,325 FCFA); 950 fingerlings were collected for redistribution, and 1.7 MT of paddy rice were produced during 2011 from integrated rice-aquaculture sites in the North
- over 6,800 fingerlings and 325 kg of fish were produced in the Sikasso in 2012 and sold for \$2,218 (1,108,825 FCFA) from 6 fish ponds.

IMPROVED SOIL MANAGEMENT FOR PRODUCTIVITY AND CLIMATE CHANGE ADAPTATION

During the period from March to August 2012, NRM activities were undertaken in the region of Sikasso to demonstrate improved soil management practices appropriate to maintain increase soil fertility (protecting soils from water and wind erosion), specifically in support of expanding and improving land for millet and sorghum production.

In addition to problems of product quality, unavailability of improved seed, and an increasingly irregular rainfall pattern (as discussed in earlier sections of this report), the production of millet and sorghum in Mali is often undertaken on marginal soils. Frequently these soils face severe water and wind erosion, resulting in loss of topsoil and in reduced fertility, leading to poor quality soils and low nutritional value for crop production. During this reporting period, activities were focused on (1) establishing water retention barriers (using either rocks or plants) to protect soils from surface wash erosion and allowing for enhanced water use through soil percolation of rainfall in order to build agricultural resilience along slopes; and (2) establishing tree lines for reducing wind erosion and for protection of soil and water retention barriers.

The soil and water conservation (SWC) measures were carried out on individually-exploited agricultural land, as well as on village common land under traditional tenure arrangements. The communities benefitting from these activities were Koutiala, Mpelloba, Koloningué Oula, N'Golonianasso, and Konseguela. During this reporting period a total of 47,570 trees were planted for erosion control on cultivated slopes, and 11,191 linear meters of soil retention barriers were established, effectively protecting approximately 378 ha of agricultural land from soil erosion and degradation.

These results represent approximately 30% of those planned for the reporting period, primarily because many villages did not participate in NRM activities because the start of the rainy season coincided with the start of these activities and producers were focused on preparing fields for planting, not participating in NRM anti-erosion efforts. However, activities implemented on well-established farms where erosion and soil loss is a common occurrence, and with support of farm owners are thus likely provide good demonstration models for subsequent uptake by others in future agricultural seasons.

IMPROVED PRODUCER ACCESS TO FINANCIAL SERVICES

The following summary provides an update of the results achieved during this reporting period, based on objectives presented in the annual workplan for the financial services component. The purpose of these activities is to support the IICEM market-led program which aims to progressively transform the production of millet and sorghum into an increasingly commercially oriented supply chain through the use of crop inputs such as improved seed and fertilizer, and outputs including innovative approaches to marketing and structured contracting and other sales arrangements. This transformation is based on the adoption of improved agronomic practices that require the use of improved inputs such as seed and fertilizer that producers often cannot access due to limited availability of agricultural credit. To facilitate producer access to credit, IICEM has established a program with the BNDA, to strengthen professional relations between IICEM-trained producer organizations and the bank as the basis for creation of long-term service-client relationships.

IICEM's Guarantee Fund was established to provide a platform for increasing access to credit for producer organizations trained by IICEM and its partners to facilitate acquisition of production inputs for increased productivity. The project also works with producer organizations to assist them in formulating credit requests, and provides monitoring of production, sales, and credit reimbursement.

Unfortunately, rebel incursions in the northern regions of Mali and the socio-political crisis resulting from the coup d'état of March 2012 had a significant negative impact on the prospects for achieving planned targets of the IICEM financial services program. However, in spite of these unforeseen events, the project implemented significant credit facilitation activities for both guaranteed and non-guaranteed loans, which exceeded \$2.0 million (1,042,617,500 FCFA).

Negotiation an Extension of the Guarantee Fund

In order to accommodate for an expected significant increase in financial needs for in production inputs due to the large increase in the client base of producer groups in FTF communities cultivated areas supported by program activities, the project was able to increase the short term guarantee funding available at the BNDA. The objective of this increased allocation is to progressively strengthen the bank's confidence in producer cooperative lending through the partial use of guarantee funds to cover transactions, and ultimately to phase out guarantee funding over time.

Value of Guarantee Funds by Financial Institution

Short Term: the project negotiated an additional conditionality with the BNDA for its guarantee fund based on the objective outlined above, thus increasing the ceiling for short-term lending from \$437,000 to \$837,000 (218,500,000 to 418,500,000 FCFA), while another short-term lending guarantee fund for \$174,000 (87.4 million FCFA) was established with Kafo Jiginew. The total short term guarantee funding currently amounts to \$1.01 million (505.9 million FCFA). Most producer organizations prefer to borrow from the BNDA because the bank offers certain advantages, such as lower interest rates and group accounts, which that Kafo Jiginew does not.

At time of writing, the short term guarantee funds placed at Kafo Jiginew have already been reimbursed, except for a payment of \$ 17,930 (8,964,900 FCFA) to cover credits not reimbursed according to the guarantee agreement.

Medium Term: At the beginning of the second phase of the IICEM project, a total of \$450,000 (225 million FCFA) was established to guarantee medium term loans at two financial institutions, \$300,000 (150 million FCFA) was placed with the BNDA and \$150,000 (75 million FCFA) with Kafo Jiginew. However, due to the financial difficulties faced by the project during the last 6 months of FY2011, funds to the amount of \$300,000 (150 million FCFA) were reimbursed to the project. Once the financial situation of the project became more stable, the \$300,000 was reinstated with the BNDA; however, funds were not reinstated at Kafo Jiginew.

The following table provides the details of guarantee funds presently placed in financial institutions.

Table 11 : Guarantee Funds available as of 31 August 2012		
Type of fund	BNDA	Kafo Jiginew
Short-Term	414,255,929	0
Medium-Term	150,000,000	0
Total	564,255,929	0

Impact of the Guarantee Funds

As noted above, during this reporting period short-term guarantee funds were increased in anticipation of the increased demand for agricultural input credit from new producer organizations - especially those located in FTF targeted communities. However, no credit was extended to producers from the BNDA in the regions of Mopti or Timbuktu due to the

socio-political crisis in the country. Nevertheless, from September 2011 to August 2012 millet, sorghum and rice producer organizations were accorded 93 loans for a total value of \$ 407,464 (203,732,000 FCFA). The low level of dispersed credit was due to: (1) refusal of producer organizations in Bougouni and Yanfolila to accept 112 loans worth 100 million FCFA because they were unable to source fertilizer in local markets; and (2) the cessation of credit activities of the BNDA in the Mopti region due to security concerns, resulting in IICEM-trained IVP producer organizations in Mopti and Timbuktu, and millet producer organizations in Koro-Bankass, not having access to input credit; FY211the BNDA provided 50 loans to IICEM-train producer organization for a total value of \$300,000 (150 million FCFA). However, and as mentioned in previous sections above, the IICEM food security program was approved by USAID to provide seed and fertilizer during 2012 for IICEM-supported IVP and millet producer organizations in Mopti and Koro-Bankass.

Assist partners in elaborating credit requests and negotiating loans

Project services aimed at to improving producer access to credit included efforts to assist partners in preparing credit requests, and project activities to monitor credit use and repayments. For the period from September 2011 through August 2012, 230 producer cooperatives submitted loan requests to the BNDA.

During this reporting period, 11 agro-enterprises received technical assistance from the project, and also received bank credit without any guarantee funding from the project. The total credit mobilized by IICEM agri-business partners, producer organizations, cereal wholesalers, and processing firms was valued at \$2,085,235 (1,042,617,500 FCFA) for 101 loans, including 93 loans for production inputs guaranteed by the project's guarantee fund to the amount of \$407,464 (203,732,000 FCFA), and nonguaranteed loans to cereal wholesalers and cereal processing enterprises for \$1.67 million (838,885,500 FCFA). Many more cooperatives applied and were approved for loans, but did not take the money when they were unable to find fertilizer on the market.

Financing of millet, sorghum and rice producing cooperatives

Input Credit, Rice: In the rice value chain 28 loans were disbursed, representing \$236,271 (118,135,500 FCFA). This amount includes 10 loans for \$45,925 (22,962,500 FCFA) for the women's producer cooperatives of Sikasso (including a loan for \$4,000 (2 million FCFA) for a women's producer cooperative engaged in parboiling and milling of rice); 13 loans, representing \$149,846 (74,923,000 FCFA) for producer cooperatives in Mopti; and 5 loans representing \$40,500 (20.25 million FCFA) in Timbuktu.

Regarding the loans disbursed in Mopti and Timbuktu, 5 loans representing \$65,518 (32,759,000 FCFA) were made for the 2011 off-season rice production. The remaining loans were made at the end of August 2011, and thus were not counted in the previous annual report.

Input Credit, Millet and Sorghum: The period for preparation and submission of loan applications for production inputs coincided with the closing of BNDA agencies in Mopti and Timbuktu, due to security issues related to rebel actions in the North. Consequently, project-trained producer organizations in those areas were not able to access input loans this year. Loans were made, however, in the Sikasso region. In Sikasso, millet, sorghum and rice producers benefitted from 65 loans for a total value of \$171,193 (85,596,500 FCFA). A summary of loans dispersed by region and by value chain is provided in Table 10, below.

Table 12 : Loans Dispersed in 2011-2012 (In FCFA)

Value Chain	Sikasso		Mopti		Timbuktu		Total	
	No.	Amount	No.	Amount	No.	Amount	No.	Amount
Millet/ Sorghum	65	85,596,500					65	85,596,500

Rice	10	22,962,500	13	74,923,000	5	20,250,000	28	118,135,500
Subtotal	75	108,559,000	13	74923000	5	20,250,000	93	203,732,000

Financing Partner Agribusinesses

In addition to producer organizations supported and trained by IICEM, as part of its BDS program, SAF and IF agribusiness recipients also benefitted from loans as illustrated in the following table.⁶

Table 13 : Value of loans (in FCFA) disbursed as of 31 August, 2012 for agribusinesses supported by IICEM

Enterprise	Activity	Loan Value	Loan Type	Institution
SODF	Commerce cereals	50,000,000	Operations	BNDA
SKC	Commerce cereals	50,000,000	Operations	BNDA
Koni Jigine	Commerce cereals	50,000,000	Operations	BNDA
Ferme Diallo Piscicole	Aqua culture/ Fish feed	350,000,000	Operations and Investment	BOA
PROSEMA	Processing Sesame	200,000,000	Procure raw materials	BICIM
RIFAB	Processing Rice	55,000,000	Procure raw materials	BNDA
Planète Distribution	Processing Rice	50,000,000	Procure raw materials	BNDA
UCODAL	Processing Cereals	33,885,500	Operations	Root Capital, Kafo Jiginew
Total		838,885,500		

Monitoring Loan Repayments

Despite significant efforts to monitor the disbursement, management, and repayment of agricultural input loans for 2011, by year's end unpaid loans to the value of \$182,322 (91,161,048 FCFA), were recorded, amounting to nearly 25% of all loans disbursed. This level of default is much higher than expected, and higher than any previous year - evidently the result of insecurity in the north, resulting in the closure of BNDA agencies and the suspension of credit. As a consequence, several producer organizations decided to re-utilize their credit accorded in 2011 for 2012, rather than reimbursing it, since agencies were closed and new credit would not be forthcoming. Unpaid loans are noted below:

Input loans millet/sorghum

- Mopti : 5 loans totaling \$11,231 (5,615,720 FCFA)
- Sikasso : 1 loan totaling \$202 (101,011 FCFA)

Input loans corn

- Sikasso : 5 loans totaling \$13,531 (6,765, 321 FCFA)

Input loans rice

- Mopti : 8 loans totaling \$46,265 (23,132,350 FCFA)
- Timbuktu : 11 loans totaling \$110,339 (55,216,969 FCFA)
- Sikasso: 2 loans totaling \$614 (307,201 FCFA).

It should be noted that overall, loan repayments in the Sikasso region were 92% due mainly to lower maize repayment rates, but credit for millet and sorghum was repaid at 99%, and at 98% for rice. In Mopti the major problem in recovering loans concerned rice production;

⁶ These loans were not guaranteed by IICEM'

while the overall reimbursement rate was 68%, repayment rates of input credit for millet and sorghum was in excess of 90%, as compared to 59% for rice.

The region of Timbuktu represents 60% of all currently delinquent loans, at \$106,800 (53.4 million FCFA) amounting to a repayment rate of 0%. Considering the ongoing instability and insecurity in the North which precludes all collection efforts, and assuming that the situation does not improve, the project and BNDA anticipate that eventual defaults of the guarantee funds could occur, amounting to significant losses of approximately \$100,000 (50 million FCFA)- considerably undermining project efforts to establish confidence and good professional relations between the BNDA and producers in areas most affected by insecurity (see Table 12, below).

Table 14: Number and Value of IICEM Guaranteed Loans

Type of Loan	Number of loans	Value of Loans (FCFA)	Number of Loans for Men	Number of Loans for Women
Short-Term	93	193,732,000	83	10
Medium-Term	0	0	0	0

Table 15: Number and Value of Non-Guaranteed Loans⁷

Type of Loan	Number of loans	Value of Loans (FCFA)	Number of Loans for Men	Number of Loans for Women
Short-term	8	838,885,500	7	1
Medium-Term	0	0	0	0

IMPROVED ACCESS TO MARKETS AND INCREASED COMMERCIALIZATION

Millet and Sorghum Value Chains

Support for cereal wholesalers to sell increasingly higher quality commercial grain in national markets

The vast majority of sales in the millet and sorghum sector are undertaken by commercial cereal wholesalers through their proprietary or associated collection networks. Strengthening commercial relationships between these wholesalers and producer organizations focused on quality-oriented down-stream markets, such as the WFP or OPAM, is a major focus of IICEM activities to improve product quality and value added at the primary producer or farm-gate level. Quality-oriented markets which pay a premium for grains meeting specific product quality grades and standards as defined by purchasing agreements and cahiers des charges present an opportunity develop market-based economic incentives for smallholder farmers to invest time and labor to improve grain quality on-farm, where supply chain quality assurance must begin.

In this regard, during this reporting period IICEM undertook a comprehensive analysis of the supply chains of partner wholesalers in order to better understand the structure, functioning and critical points along the supply chain that have a major influence on the quality of wholesale grains. The analysis revealed several major problems making the establishment

⁷ Provided to 8 IICEM agribusiness partners

of quality assurance procedures problematic, including (1) the excessive number of intermediaries – collectors, sub-collectors, small-scale collectors, making effective communication and organization difficult; (2) the vast diversity of grain quality according to grain source, with little prospect for traceability; (3) the lack of standard operating procedures (codes of practice) for product quality control; and (4) lack of access to, or availability of basic grain handling equipment.

In order to address these issues, IICEM began technical assistance and associated support efforts, within an enterprise development context, to build the skills necessary for wholesalers and their suppliers to more effectively manage the cereal supply chain and to strengthen management capacity to enable these wholesale agribusinesses to evolve into agricultural supply chain management firms. Necessary skills include quality control techniques, simple methods for ensuring traceability, provision of basic equipment to monitor grain quality, improving storage procedures, and providing frequent monitoring of supply chain operations. Related capacity building efforts undertaken by IICEM involved approximately 66 supply chain actors, and were focused on quality assurance and quality control techniques, introduction of traceability concepts, and analysis of how product quality improvements can increase revenues for producers and other players.

During this reporting period, a total of 29,748 MT of cereals⁸ were commercialized by targeted producer groups, for a total value of more than \$13.8 million - exceeding both volume and value targets for the reporting period. In addition, IICEM partner cereal wholesalers sold more than 7,500 MT of millet and sorghum (4,920 MT of millet and 2,585 MT of sorghum) on sub-regional markets, for a total revenue of approximately \$3.5 million - and despite a poor harvest in FY2011 and the political crisis during the final 5 months of the reporting period, sub-regional cereal trade attained over 90% of program targets for that period.

In southern zones, program efforts focused on procedures to formalize farm-gate sales in order to create a transactional base for establishment of formal quality criteria and product value addition, while increasingly involving financial institutions in development of increasingly formalized transactions as a 'guarantee' and a basis for access to short-term credit. Recognizing that this is a process that will take time to become wide-spread and to be progressively adopted by both buyers and sellers as mutual confidence and economic opportunities increase, related support activities undertaken by IICEM during this reporting period involved 412 producers, resulting in sales of 439 MT of commercial grain for a total value of \$174,349 (87,174,640 FCFA) at premium market prices (185,000 FCFA per MT in February 2012, and 250,000 FCFA per MT in May, 2012), enabling producers to make timely reimbursement of their loans with the BNDA.

Monitoring of partner wholesaler activities and procedures also enabled IICEM to determine the volume of farm-gate sales with both producer organizations trained by the project. Moreover, it also showed the sales of other producer organizations in the same production zone. In this regard two partner wholesalers who benefitted from project technical assistance sold 4,457 MT of millet for a value of \$2.53 million (1,264,505,000 FCFA) ; 392 MT of sorghum for \$185,000 (92,655,000 FCFA) ; and 100 MT of rice for \$82,000 (41 million FCFA), based on the value chain study wholesalers are making around 20FCFA/kg profit. As one of the final stages in the value chain, the market the wholesalers act as consolidators, organizing the value chain. IICEM is confident that in a few years the wholesalers will have structured not just the FTF villages and communes, but all of the millet and sorghum production zones.

In addition, 26 entrepreneurs, 6 collectors, 6 sub-collectors, 3 accountants, 4 assistant accountants, 3 wholesalers, and 4 women processors all received training in basic accounting practices and marketing principles. IICEM also had a local firm adapt its

⁸ An aggregate amount consisting of millet (13,959 MT), sorghum (5,199MT) and rice (10,951 MT)

commercial accounting software to the needs of IICEM's partners, which was subsequently installed for use by 4 cereal wholesalers Sikasso, Koutiala, Ségou, and Mopti.

Consolidation and management of commercial cereals through the use of improved warehousing

During 2012, IICEM undertook a major effort to build village-level warehouses for partner producer groups, thus enabling them to consolidate their harvests for secure post-harvest storage, strengthening their capacity to negotiate farm-gate sales and to begin to create formal marketing linkages with cereal wholesalers and other buyers. In addition to better ensuring food security for producer communities in the major production zones, IICEM efforts to improve productivity targeted increases in the volume of grain to be commercialized, establishing a credible base for ensuring continued on-farm investments in production-enhancing technologies, as well as increases in household income. Increased commercialization has also encouraged producers and producer organizations to begin investing in quality assurance as a means to increase the value and sale price of commercial grain, and to begin the process of formalizing farm-gate sales.

In the Mopti region, 2,843 producers will benefit from 31 warehouses each with 75 MT capacity that were built and equipped (weigh scales and pallets) by the project in 2012. A protocol of collaboration was agreed to and signed by the project and participating producer organizations that specified the contribution of each signatory.

In the Sikasso region, FTF communities in Sikasso and Koutiala benefitted from 52 warehouses of 75 MT capacity recently constructed and equipped by the project. These warehouses will enable producers to securely store their harvest for enhanced food security, and to assure potential buyers of product quality to support more lucrative commercial sales. Beginning in 2012-2013 and over time, producers will be empowered to more efficiently and effectively manage farm-gate sales through aggregation, sorting, and consolidation of their harvests. These 52 warehouses will facilitate the consolidation of approximately 3,900 MT of millet and sorghum annually, and will afford better positioning to producer organizations in order to more effectively market their commercializable surplus to cereal wholesalers.

Rice Value Chain

In the North, a total of 6,198 MT of paddy rice was sold during the past year (September 2011 through August 2012) by IICEM-trained producer groups. Of the 6,198 MT, 4,230 were sold in Timbuktu, 2,553 MT originated from the PIVs, and 1,677 MT from flood-plain production. These sales represent production from the 2010-2011 campaign and off-season production in 2011.

The total value of sales during this period was \$2.33 million (1,164,798,654 FCFA), \$1.62 million (808 million FCFA) in sales originated from Timbuktu, while \$713,597 (356,798,654 FCFA) in sales originated from Mopti.

In the region of Sikasso, the commercialization of flood-plain rice increased dramatically in 2012 as a result of project investments (construction of dams and warehouses) and the adoption by beneficiary groups of new and improved production practices resulting from three years of the project's continued technical assistance in support of this objective. During this reporting period, the total volume of rice sold by targeted women's producer groups increased from 2,514 MT the end of 2011 to 4,071 MT in July of 2012 - an increase of 62%, due to increases in the volume harvested, more hectares planted, and an increased percentage of the harvest sold. The volume of sales indicates that, in general, the women's producer groups supported by the project now sell rice – and in fact, sales of surplus rice represent more than 62% of total paddy production, compared to just 25% in 2009. In addition, it is noteworthy that the sale price of their rice increased from between 150,000 and

175,000 FCFA in 2009 to between 320,000 and 350,000 FCFA in 2012, due in part to the improved quality of both dehulled and parboiled rice, and also a generalized market shortage of rice due to poor rains and lack of sufficient fertilizer, which resulted in increased market prices.

Support to small rice mills for the production of quality milled rice

In 2011-2012, three rice mills were installed in the region of Mopti with IICEM support. Project support consisted of monitoring (1) the installation process with equipment fabricators; (2) test runs of equipment to regulate and maximize equipment performance and milled grain quality; and (3) the recruitment of personnel.

In order to develop and begin structuring the raw material supply chains for the mills, the project assisted mill owners to develop quality criteria for the procurement of paddy rice as a raw material (to maximize milling yields by reducing losses, and ensure food safety and quality of the finished product), and to identify zones of concentrated production and discuss with local producer organizations prospects for future purchase of raw material (paddy) based on volume and quality requirements. Initial discussions focused on grain moisture and homogeneity issues (e.g. by variety and grain maturity), impurity levels, seasonality of supply, and pricing. In some cases, sales contracts were signed, specifying quality and quantity criteria between producer groups and the mills.

During the reporting period 728.30 MT of rice paddy were purchased and delivered to the mills. Due to the quality of cereal purchased 604.36 MT of the purchased paddy could be milled, resulting in 331.58 MT of milled white rice and 272.78 MT of by-product. This by-product combined with other ingredients produced 600 MT of animal feed. Total sales for the milled white rice was \$483,548 (241,774,000 FCFA) with an average price of 400,000 FCFA/MT, and \$192,000 (96,000,000 FCFA), or 160,000 FCFA/MT for animal feed.



Table 16: Commercial Transactions for IICEM-support rice mills in the North

Mills	Products	Total Volume (MT)
Planète Distribution	Paddy Purchased	497
	Milled Paddy	350
	Quantity Milled Rice Sold	211

RIFAB	Paddy Purchased	210
	Milled Paddy	188
	Quantity Milled Rice Sold	112
	Grain Purchased	600
	Grain Processed	600
	Grain & By-product Sold	600
SO.PRO.TRI.LAD.	Paddy Purchased	21
	Milled Paddy	21
	Quantity Milled Rice Sold	8

Beyond the above activities, selected mill staff were trained in basic accounting techniques in order to maintain records and monitor operating costs, and an accounting software package was installed at RIFAB. In addition, a supply chain diagnostic study for business development was undertaken for RIFAB and Planète Distribution in order to help those companies to focus support to those areas of operation which will maximize returns on investment, ensure profitability through optimal functioning of the rice mills, and to address the priority requirements of the mill owners.

Consolidation of paddy rice using warehouses

As was the case for millet and sorghum, the IICEM strategy to improve producer access to markets for rice has been focused on strengthening producer ability to ensure their own household food security requirements first (e.g. through improved productivity and reduced post-harvest losses), leading progressively to increased commercialization of surplus produce. This scenario is predicated on producers having the means to securely store and maintain the quality of harvested crops. Collective storage provides an initial level of product aggregation as a basis for farm-gate sales, and strengthens the ability of producer groups to negotiate with buyers. In Mopti, during this reporting period, IICEM constructed and equipped seven warehouses of 50 MT capacity, benefitting 647 rural households.

In Sikasso, the project assisted 7 targeted women's producer groups representing 1,190 rural households to aggregate and consolidate their paddy by constructing and equipping 7 warehouses. These warehouses will provide the means to ensure the quality of stored paddy as well as that of milled and processed rice, and to facilitate marketing and sales. During 2012, these 7 beneficiary groups stocked 183 MT of paddy, compared to a target of 150 MT - 22% above target.

Promotion of milled and parboiled rice sales using improved dehulling machines

During 2011, IICEM purchased 6 dehulling units for 6 women's organizations (based in Finkolo Ganadougou, Nièna, Loutana, M'Pegnoso, Kouroumasso, and Zangaradougou), and completed their installation in 2012. Following installation, the project began a series of hands-on training sessions in basic notions of raw material quality (moisture control and sorting), improved parboiling techniques, and technical assistance to facilitate a short term bank loan to support operational costs.

In a very short time, the dehulling mills provided through IICEM have completely transformed the milling and marketing of rice for these groups, thanks to higher milling efficiency and the improved quality of dehulled rice. Overall, the 6 organization that benefited from the

dehulling units and the three other organizations that received technical assistance from the project saw a significant improvement in their revenues, as shown by their increase in sales. The following table (Table 16) provides details regarding sales for targeted women's producer organizations.

Table 17 : Rice Sales by Women's Producer Organizations in Sikasso						
N°	Villages	Name	Prod. 2011-2012 (MT)	Vol Sold (MT)	Average Sale Price (FCFA/MT)	Value of Sales (FCFA)
1	Kouroumasso	Benkadi	185	156	350,000	54,565,000
2	Nantoumana	Benkadi	105	78	350,000	27,247,500
3	M'Pegnesso	Benkadi	476	380	350,000	132,863,500
4	Finkolo Ganadougou	Union des femmes de Finkolo Ganadougou	1 512	561	341,667	191,675,000
5	Nièna	COFRN de Niena	441	243	341,667	82,905,417
6	Loutana	FOKABEN de Loutana	855	651	351,667	228,956,100
7	Benkadi	Zoloko	325	250	346,667	86,774,133
8	Siramana	Benkadi	777	589	345,000	203,160,150
9	Zangaradougou ⁹	Benkadi	0	1,164	320,000	372,480,000
	TOTAL		4,675	4,071		1,380,626,800

The volume of rice sales by IICEM-trained women clearly shows that their objective for paddy production is to support milled rice sales. In fact sales of milled rice represent more than 62% of total paddy production, compared to only 25% for the same producers in 2009. Also of note is the significant increase in market price for milled rice as compared to paddy; milled rice sold for between \$640 and \$700 per MT (320 000 to 350 000 FCFA), compared to a reported average of just \$325 (162,500 FCFA) per MT of paddy in 2009 for the same women's producer groups. In summary, higher market prices pushed women's organizations to sell higher quantities of rice, additionally they were using better technology that was adding quality to the rice so it sold at a premium price. Zangaradougou, parboiling rice with IICEM provided equipment and training have established and maintained themselves as leaders in the market.

PROMOTION OF A FAVORABLE ENVIRONMENT FOR AGRICULTURE, TRADE AND THE PRIVATE SECTOR

During 2012, activities designed to promote a favorable environment for commercial agriculture and the private sector focused on lobbying efforts to: (1) reduce costs and improve the fluidity of transport, particularly for cross border trade; (2) improve cross border trade in cereals by reducing administrative restrictions; and (3) provide technical assistance to cereal wholesalers, their supply chain counterparts and producer groups to establish quality assurance criteria, and procedures by which these quality criteria may be met by

⁹ This organization received technical assistance only in parboiled rice production methods and marketing techniques.

producers; and (4) improve the availability and distribution of information regarding laws and regulations governing transport for better market positioning of truckers, consolidators, and other transportation service providers.

Promotion of Lobbying to Improve Competitiveness

Lobbying activities were implemented by a committee, led by a representative of the National Employers Federation and including major private sector actors involved in cereal commerce, to address notable constraints to cross border trade in cereals. A major expected outcome of these efforts is the suppression of restrictions on the cross border trade of cereals within the sub-region, potentially leading to an increase in the volume of cereals exported for trade within the sub-region.

Following these efforts, and subsequent discussions with government authorities in 2012, the committee was successful in obtaining the required government approval to allow for the export of 2,000 MT of millet and sorghum by IICEM's partner wholesalers in Sikasso, Koutiala and Ségou, and negotiations continue to eliminate such restrictions that block cereal exports.¹⁰

Capacity building for the private sector

Following the recommendations of the lobbying committee, the project implemented a series of activities aimed at informing the private sector (principally those engaged in cereal commercialization and trade) regarding laws and regulations related to commerce and trade, both domestic and cross-border. Consequently, workshops were held in January 2012 in Ségou and Sikasso for more than 50 participants. In July 2012, workshops were organized in Kayes, Sikasso, Ségou, and Mopti involving more than 100 participants.

Following these workshops, participants indicated that they had a much better understanding of ECOWAS and UMOEA regulations, and results of discussions highlighting major private sector concerns were subsequently included in a summary document submitted to Malian authorities by the Committee.

¹⁰ It is interesting to note that due to the high prices on domestic markets due to the relatively poor harvest of 2011, the 2,000 MT was sold domestically.

Training of cooperatives and agribusinesses in best post-harvest practices and quality control

As a component of its market development strategy, IICEM has focused a series of activities necessary to support establishment of quality control measures by producers and processors to establish and reinforce quality assurance as an integral part of cereal supply chain development. This will better position producer organizations to segment their production and thus adapt their raw material supply to suit the requirements and opportunities of evolving and increasingly segmented end-markets. The major beneficiaries targeted by these activities are members of leading producer groups, NGO implementing partners, cooperative leaders, public sector field agents, cereal wholesalers, collectors, and warehousing staff. Activities related to quality assurance implemented during this reporting period included training and capacity building for NGO implementing partners and producer organizations in best post-harvest processing and storage methods, concepts of traceability, measures for quality control, and related management practices. Additionally the project provided moisture meters and threshing machines and related training to producer organizations.

Approximately 1,698 participants, including 380 women, participated in training activities addressing best practices in production, harvest and post-harvest practices, quality control measures, quality management (and quality assurance, through better organization of the supply chain), and product traceability. As a result of all of these activities, some participating producer groups were able to sell their quality grains for an added value of between FCFA 10 to 30 per kg; this value added in some cases amounted to a premium of FCFA 30,000 per MT of grain. Additionally, more than 700 MT of quality millet and sorghum were sold under formal contracts which specified quality requirements, for a total value of more than \$300,000 (150 million FCFA).

Elaboration of a procedure for the certification of locally-produced seed

During this reporting period, IICEM signed a collaborative agreement with the Malian Investment Promotion Agency (API-Mali) to analyze, and propose improvements to, the relevant legal and administrative procedures governing Malian agro-enterprises. Two areas of priority interest to IICEM - where simplifying administrative procedures could have an immediate and positive impact on agricultural development - were those regulations regarding the certification of seed, and extant procedures for acquisition of agricultural land in the irrigated zone of the Office du Niger. IICEM specialists in business development and quality assurance implemented a series of activities to reassess and revise the procedures for the certification of locally produced cereals seed, with an objective of streamlining the existing procedure making it more 'user friendly,' adapting it to the practical needs of seed cooperatives and enterprises, and making its application in practice more transparent.

In close collaboration with API, having consulted the seed specialists within the national agronomic research institute IER, the Regional Direction of Agriculture (DRA) in Ségou, and private sector seed producers and suppliers, IICEM specialists identified several possible revisions to simplify procedures and make their application easier and more transparent while ensuring seed quality. Currently the proposed procedure for producing certified seed has been adopted, and the simplified procedure is now being used and is available online, accessible through the API website (<http://mali.eregulations.org/>).

However, the second procedure targeted by IICEM in its program of collaboration with API, concerning the simplification of the procedure for the acquisition of agricultural land in the Office du Niger, has been temporarily suspended in accordance with USAID's request to suspend collaborative efforts with the GRM following the coup d'état and resulting instability beginning in March of 2012.

PROMOTION OF ENTERPRISE DEVELOPMENT FOR BENEFICIAIRES OF IICEM SPECIAL FUNDS

During 2012, 9 agro-enterprises were supported by IICEM special funds - 6 through the Strategic Activity Fund (SAF), and 3 by the Innovation Fund (FAEI). Financial support was also accompanied by the provision of business development technical assistance provided by IICEM BDS staff, and was adapted to the specific needs of each partner agro-enterprise. The overall objective of these efforts has been to enable partner agribusinesses to achieve the objectives set forth in their approved business plans.

SUPPORT TO AGRO-ENTERPRISE EXPANSION USING SAF AND FAEI

Implementation Status of SAF and FAEI financial support agreements and the financing of partner enterprises

During the reporting period selected enterprises received two disbursements of funds according to the conditions of their grant agreements. Advances, which were accorded in two disbursements, had a total value of \$378,071 (189 million FCFA), a figure representing 50% of the total authorized grant amount. These funds were divided among 3 grants under the Innovation Fund totaling \$122,296 (61,148,164 FCFA), and 6 grants under the Strategic Activity Fund totaling \$633,845 (316,922,300 FCFA).

Benefiting agro-enterprises include:

Strategic Activity Fund:

- Fish Farm and Fish Feed Production - Boubacar Diallo – fish farm located in Tanima, Baguineda and fish feed production located in the new industrial zone;
- Sesame production, processing and packaging - PROSEMA SAU in Fana;
- Cereal processing enterprise, Danaya Céréales in Bamako;
- Cereal supply chain/commercialization - Koni Jigine SARL in Sikasso ;
- Cereal supply chain/commercialization - SO.D.F SARL in Koutiala ;
- Cereal supply chain/commercialization - SKC SARL in Ségou

Innovation Fund:

- Aquaculture Cooperative - Aqua Bambadi in Sébé ;
- Production of mango-based vinegar - UPROSEV in Bamako; and
- Fonio processing enterprise - UCODAL in the industrial zone of Bamako.

Investments are presently underway and the completion of business plans are considered satisfactory for all enterprises following project monitoring visits.

Installation of management software “Diago Kunafo”

A major objective of IICEM's BDS team is to facilitate the sustainable development of partner agro-enterprises. In pursuit of this objective, support by the project has been focused on the development, specific adaption to the needs of IICEM agribusiness partners and installation of a basic management software package, Jago Kunafo, developed by a local software firm contracted by IICEM. The purpose of this software is to provide basic commercial data and analysis to management in 'real time' to facilitate decision-making and strategic planning.

To date, four cereal wholesale and consolidation agro-enterprises, three semi-industrial rice mills, and three cereal processing firms have benefited from this activity. In addition to installation of the software, 20 agents (2 per enterprise) were trained to use the software, and were supported by frequent technical back-stopping visits from IICEM BDS staff to ensure its proper and efficient use. The objectives of these activities are to strengthen commercial management of beneficiary enterprises, improve the organization and structure of their respective supply chains, and improve the implementation of a better commercial and communication strategy. In addition, improved management of these firms will be essential if they are to evolve from being mere buyers of raw materials to managers of raw material supply chains - a necessary evolution if they are to become competitive and credible value-added buyers for large numbers of rural producers.

IICEM's goal is to change the mindset of these partner agro-enterprises: moving them from the informal sector to the formal sector. A better management system is the first step to understanding and knowing the potential for what could be done. Two examples of technical and financial support that IICEM has provided to agro-enterprises showing specific steps in improving quality and moving them into the formal sector are Danaya Cereals and Samb Production.

Industrialization of Danaya Céréale

A technical assistance support package to improve and ensure product quality will be introduced to Danaya Céréales when the construction of their new facility is completed and operational. Quality assurance measures will be based on international HACCP/ISO 22000 requirements, which are expected to begin in early 2013. Meanwhile, IICEM's quality specialist is providing technical assistance in the construction phase of the new facilities, in order to ensure that they will conform to HACCP/ISO 22000¹¹ requirements for food product processing. In this regard, IICEM has contacted national experts in the domain of food processing to recommend appropriate modifications in construction plans for compliance with HACCP/ISO 22000 requirements. These recommendations have been accepted by the owner, and are currently being integrated into construction of the industrial facilities of the company.

Technical Assistance for Samb Production to improve product quality

Samb Production (previously “UPROSEV”) received project technical assistance to improve its overall competitiveness, particularly as regards improving and maintaining product quality, and improving market penetration. Following evaluation by the IER Food Technology Laboratory of production procedures, profitability of production, storage and marketing, Samb Production has made significant progress in improving and assuring final product quality. Confronted with very high losses in the past due to poor or variable control of final product quality, IICEM has worked with the Samb Production management to definitively resolve quality issues. A detailed diagnostic study of the entire production line was thus undertaken, specific additional equipment needs to improve product quality were evaluated, and the owner of Samb Production undertook a visit to Senegalese small

¹¹ HACCP regulations: <http://www.fda.gov/food/foodsafety/hazardanalysiscriticalcontrolpointshaccp/default.htm>

enterprise producing the same product in, and to the Food Technology Institute (Institut de Technologie Alimentaire) of Senegal in order to learn from their experience in the best practices to ensure final product quality and stability (i.e. shelf-life). The resulting improvements in raw material quality and production techniques have resolved most quality issues. The project also assisted Samb Production to improve its product by marketing by re-designing packaging and labeling – changes which have already greatly improved market penetration.

CAPACITY BUILDING FOR AGRO-ENTERPRISES

Technical Assistance to improve supply chain management

Analysis of supply chains for IICEM partner agro-enterprises (cereal wholesalers, processing firms, and semi-industrial rice mills) has clearly underlined the need to improve supply chain management for both product quality and in order to ensure profitability of operations. Consequently, IICEM decided to organize a series of activities for wholesalers and their supply chain staff – collectors and sub-collectors, processing firms, and rice mills - focused on improving the quality of raw material supplies of commercial grains. In addition to this technical training, field activities in support of this objective have included the identification of specific supply chain organizational networks along primary and secondary transport corridors, and operational strategies to ensure the delivery of the quantity and quality of grain required according to defined delivery schedules.

In the region of Sikasso, BDS activities were undertaken in support of three agro-enterprises – cereal wholesalers *Société Doumbia et Frères* (SO.D.F) in Koutiala, *Koni Jigine* in Sikasso, and the *Société Kéita Céréales* (SKC) in Ségou. These activities have focused on training on how to prepare business plans, elaborate bid submissions in response to public tenders from institutional markets (e.g. WFP, OPAM), and collaborative agreements between businesses and public sector agencies. IICEM monitored grants provided to each business by the project, and provided training in basic accounting methods, and in monitoring the use of software provided by the project to improve supply chain management.

The respective business plan for each enterprise was finalized and submitted to USAID for grant approval, and the three wholesale cereal consolidators were subsequently approved and provided with grants totaling \$242,921 (121,460,585 FCFA), which were disbursed as follows :

Grant Agreement between IICEM and *Koni Jiginew* : \$18,140 (FCFA 9,070,000)

Grant Agreement between IICEM and SKC : \$117,005 (FCFA 58,502,255)

Grant Agreement between IICEM and SO.D.F : \$107,777 (FCFA 53,888,330).

ANALYSIS - MONITORING & EVALUATION

PROJECT INTERMEDIATE RESULT I: AGRICULTURE PRODUCTIVITY IMPROVED

Indicator	Results FY11	Results FY12	Target FY12	% Achieved Results/Target	Remarks
<i>Gross margin per unit (\$/ha, cumulative)</i>					
Millet	\$221	\$448	\$252	178 %	The significant increase in millet gross margins was primarily due to high market prices in the face of supply shortfalls. All crop margins benefited from product quality improvements (especially in lowland rice) to increase market price
Sorghum	\$293	\$330	\$353	93 %	
Lowland Rice (Sikasso)	\$681	\$1,072	\$800	134 %	
Irrigated Rice (PIV)	\$1,247	\$1,501	\$1,610	93 %	
<i>Number of farmers and others who have applied new technologies or management practices as a result of IICEM assistance</i>	17,238	31,855 Continuing: 17,238 New: 14,617; 23,536 male and 8,319 female	30,000	106 %	These are the total number of farmers benefitting from IICEM field services. 22,032 farmers without the Timbuktu region.

PROJECT INTERMEDIATE RESULT I: AGRICULTURE PRODUCTIVITY IMPROVED

Indicator	Results FY11	Results FY12	Target FY12	% Achieved Results/ Target	Remarks
<i>Number of hectares under improved technologies or management practices as a result of IICEM assistance</i>	10,708	36,451 New: 25,743 Continuing: 10,708 Technology type: Soil-related: 36,451; Irrigation: 1,969; Post-handling and storage: 4,179.	27,240	134 %	This indicator was recently modified to disaggregate hectares by each individual technology. If several technologies were adopted for the same area, then the total area under improved technologies/ management practices equals the area times the number of individual technologies and practices. Thus, the value in 2012 is not comparable with previous ones where areas were not disaggregated. Without multiple counting, a total of 30,360 ha were cultivated during the 2012 agricultural season.
<i>Number of persons having received short term formation on agricultural sector productivity</i>	3,617 904 women 2,713 men	6,376 1,985 female, 4,391 male Type of individual: Producers : 5,967 People in private sector firms : 409	6,000 2,000 women 4,000 men	106 %	No comment

PROJECT INTERMEDIATE RESULT I: AGRICULTURE PRODUCTIVITY IMPROVED

Indicator	Results FY11	Results FY12	Target FY12	% Achieved Results/ Target	Remarks
<i>Number of private enterprises, producer organizations, associations of water users, women's groups, business associations and community organizations receiving IICEM support</i>	241	493 Type of organization: producers' organization. New: 234 Continuing: 241 Type of organization: private enterprises. New: 18 Continuing: 0	500	99 %	No comment
<i>Number of members of producer and community organizations receiving support from IICEM</i>	17,238	31,855	30,000	106 %	No Comment
<i>Number of new technologies or management practices available for transfer</i>	6	8	6	133 %	Rice: New equipment (cultivators and weeders), infrastructures – improved water management for irrigation networks and dams, new, improved rice dehuskers and the collective management of warehouses Millet: adoption of new and improved cultivar (Toroniou) and fertilizer micro-dosing
<i>Number of rural households directly benefitting from IICEM intervention</i>	12,636	24,715 New: 12,636 Continuing: 12,079 Male and Female Adult: 24,715	24,000	103 %	17,374 without Timbuktu

PROJECT INTERMEDIATE RESULT 1: AGRICULTURE PRODUCTIVITY IMPROVED

Indicator	Results FY11	Results FY12	Target FY12	% Achieved Results/ Target	Remarks
<p><i>Number of policies, laws, agreements or regulations in each of the following categories:</i></p> <p><i>Phase 1 of 5: Analysis</i></p> <p><i>Phase 2 of 5: Elaborated and presented for public discussion</i></p> <p><i>Phase 3 of 5: Presented for new legislation of decrees</i></p> <p><i>Phase 4 of 5: approved and passed</i></p> <p><i>Phase 5 of 5: for implementation</i></p>	<p>3</p> <p>3</p> <p>-</p> <p>-</p> <p>-</p>	<p>1</p>	<p>N/A</p>	<p>N/A</p>	<p>Due to the FTF strategy, IICEM stopped working with NRM local conventions at the community level. Moreover, USAID sent us a request to stop working with the Government of Mali after the Coup d'État.</p> <p>The only one procedure adopted is the simplified seed certification process (page 39).</p>

PROJECT INTERMEDIATE RESULT 2: MARKETS AND TRADE EXPANDED

Indicator	Results FY11	Results FY12	Target FY12	% Achieved Results/ Target	Remarks
Value of <i>incremental sales</i> (collected at farm-level) attributed to IICEM implementation (by commodity, \$, include volume	\$1.5 M \$4.2M LL Rice \$1 M PIVRice \$1.9 M Millet \$830,000 Sorghum \$426,370 -	\$9.6 M Based on: \$13.8M LL Rice (\$1.7M) \$2.7 M PIVRice (\$0.7M) \$2.6 M Millet (\$6.2M) \$6.3 M Sorghum (\$1.8M) \$2.2 M 15,440 MT based on:	\$5.5M Based on: \$9.7M 24,100 MT	175% 142 % 123 %	The significant increase in farmgate sales was due to an increase in consolidated purchases by IICEM partner cereal wholesalers. Lower than expected yields and high market prices encouraged household to keep grain for consumption.

PROJECT INTERMEDIATE RESULTS 2: MARKETS AND TRADE EXPANDED

Indicator	Results FY11	Results FY12	Target FY12	% Achieved Results/ Target	Remarks
Value of sub-regional <i>incremental sales</i> attributed to IICEM implementation (by \$ and volume)	\$543,000 (\$34,000 in FY10, rice)	\$2.9 M based on:	\$3.2M	91 %	No comment.
	\$577,000 Millet \$120,625 Sorghum \$289,025 Rice \$176,350	\$3.5 M Millet \$2.3 M (\$2.2M) Sorghum: (\$0.9M) \$1.2 M Rice \$0 (-\$0.2M)	\$3.75M	93 %	
	1,760 MT Millet 455 MT Sorghum 1,030 MT Rice: 275 MT	5,745 MT based on: 7,505 MT Millet: 4,920MT Sorghum: 2,585 MT	8,250 MT	91 %	

PROJECT INTERMEDIATE RESULTS 3: INVESTMENTS IN ACTIVITIES RELATED TO AGRICULTURE AND NUTRITION

Indicator	Results FY11	Results FY12	Target FY12	% Achieved Results/ Target	Remarks
<i>Number of public-private partnerships created following IICEM assistance</i>	4	16	20	80 %	The significant decrease was due to the non inclusion of 8 NGOs (that were initially considered part of PPP by the project), The 16 partnerships were created with agribusinesses through SAF and IF granting mechanisms.
<i>Value of new investments by the private sector in agriculture or food chain leveraged by IICEM</i>	\$824k	\$8.6M	\$8M	108 %	A dramatic increase was noted over 2011 due to partnerships with agribusiness firms, and presently, in spite of a difficult investment environment.

PROJECT INTERMEDIATE RESULTS 4: INCREASED OPPORTUNITIES FOR EMPLOYMENT IN TARGETED VALUE CHAINS

Indicator	Results FY11	Results FY12	Target FY12	% Achieved Results/ Target	Remarks
<i>Number of jobs resulting from IICEM's technical and financial support</i>	20	156	200	78 %	Expected job increases were not realized primarily because one agribusiness partner delayed the expansion of his conditioning production line, expected for early 2013.
<i>Value of agricultural and rural loans</i>	\$2.2M 163 loans	\$2M 101 loans	\$2M 225 loans	104% 45%	The low number of agricultural input loans was due to the cessation of BNDA credit activities in Mopti and the lack of fertilizer in local southern markets.
<i>Number of micro, small and medium size enterprises receiving IICEM support for access to bank loans</i>	10	12	12	100 %	No comment
<i>Number of MSMEs receiving business development services from IICEM-assisted sources</i>	19	18	19	95 %	No comment

PROMOTION OF EQUITABLE OPPORTUNITIES FOR MEN AND WOMEN IN THE DEVELOPMENT OF VALUE CHAINS

Following an opportunity assessment of the millet, sorghum, and rice value chains in 2011, activities to promote equitable opportunities for both men and women in value chain development targeted processing and commercialization activities in Sikasso, Bamako and Mopti, focusing on capacity building.

PROCESSING AND COMMERCIALIZATION

Millet and Sorghum Value Chains

Activities focused on structuring a 'cluster' of small-scale, women-owned cereal processing units around Danaya Céréales, a leading commercial processor of millet, sorghum, and maize in Bamako. A diagnostic assessment of these small-scale processing units was undertaken, and concrete actions were implemented to strengthen the technical and managerial capacity of these units in order for them to develop a commercial relationship with Danaya Céréales.

Rice Value Chain

Two villages (Finkolo-Gaanadougou and Loutana) were targeted, based on project experience in these villages concerning lowland rice value chain development. Initially, existing constraints and opportunities facing women's producer groups that benefited from project services were evaluated to provide a base for developing future initiatives. In Mopti, a diagnostic study was completed for a cooperative of women rice parboilers representing 180 members. The object of the study was to assess the opportunity to restructure the cooperative as a cluster network to supply parboiled paddy to one of the project's supported semi-industrial rice mills for production of parboiled for regional markets. The diagnostic study identified a poor level of organization within the parboiling cooperative. It also provided an analytic framework of the elaboration of an action plan to be implemented during the coming months, with a focus on providing equipment and the appropriate training in improved parboiling techniques to build the capacities of at least 100 women.

CAPACITY BUILDING FOR WOMEN

Training: Financial Management Practices

Following the diagnostic study undertaken in Bamako for the small-scale women processors and Danaya Céréales, training activities were undertaken for 22 women and 4 men based on the modules of 'Making Cents' (a US-based agribusiness development consulting firm), including aspects of micro-finance, financial management, simplified accounting and basic aspects of commercial marketing.

Training: Best Practices for Cereal Processing and Hygiene

In order to provide a solid technical foundation for improving the quality of processed cereals, training sessions were organized in collaboration with Danaya Céréales. Danaya, supported by a technician from the Food Technology Laboratory at IER, provided the training platform for small-scale processors to benefit from 'hands-on' training in the use of basic processing equipment such as dehullers, grinders, and mills, and the organization of the different stages in producing high quality processed cereal products according to the quality requirements of Danaya Céréales. This training served 24 small-scale processors, including 3 men.

Training: Management and Leadership Skills

The diagnostic study revealed the need to strengthen the capacity of small-scale processors in management and leadership to equip them with the necessary skills to be successful in marketing their products. Training was organized with a focus on basic business development and organization issues within a simplified value chain context. This approach was used in the training of women rice producers, processors and community leaders in targeted villages of Finkolo Ganadougou, Kouroumasso, Loutana, M'Pessoba, Zangaradougou and Nièna in Sikasso. Twenty women and one man participated in the training, which enabled participants to better appreciate the need to focus their efforts on a single link in the value chain where they could maximize their revenue, rather than disperse their efforts in trying to operate in many areas at the same time. This approach also emphasized the need to develop professional relationships (in value chain terms, horizontal linkages) with others, working in complimentary areas so that collective 'win-win' situations may be developed.

Training: Basic Literacy for Women Rice Producers and Millet and Sorghum Processors

Literacy (and literacy training) is an important cross-cutting issue upon which the project may successfully promote the creation and development of women-owned agribusinesses. This issue becomes even more important since FTF programs target food security value chains such as millet and sorghum, and their sustainable development will require an evolution towards increasingly more commercial, value added systems. Women presently play a key role in the value chains, especially in value added segments (improved productivity, expanded, higher value processing and marketing/ commercialization), and their role must evolve as these value chains develop.

Initially 6 villages have been selected for literacy training, targeting rice (Zoloko, M'Pessoba, Siramana and Zangaradougou in the region of Sikasso), and millet and sorghum (Molobala and Kapala in the region of Koutiala) for women producers in particular, including 60 participants per village.

ACTIVITIES IMPLEMENTED IN SYNERGY WITH OTHER PARTNERS

Activities implemented in synergy with the World Vegetable Center (AVRDC)

During this reporting period, IICEM worked closely with the World Vegetable Center (AVRDC) in the Sikasso region to develop vegetable production and introduce new irrigation technologies. Collaborative and complementary efforts in 3 FTF-targeted villages focused on enabling local communities to diversify their income and improve household nutrition by incorporating vegetables into family diets. IICEM developed three fenced-in sites, including wells, while AVRDC established demonstration sites to serve as field schools for training and extension in various irrigation practices (e.g. drip, seed-bed, wells) and various vegetables, including red pepper, cabbage, onion, eggplant, and okra. This activity resulted in the establishment of an excellent training platform for an estimated 90 producers, including approximately 60 women in FTF villages of Loulouni, Blendougou, and Finkalo-Ganadougou.

Activities implemented for the promotion of a favorable environment for agriculture, commerce and the private sector

Numerous constraints to cross-border trade and national and sub-regional commerce were well-documented in the course of a logistical assessment undertaken by the project in 2011, in collaboration with the E-ATP regional program. The general conclusions of this study and follow-on activities have been summarized in previous reports¹².

Activities implemented with WINROCK International for the construction of a non-leaking fish pond



Relined fish ponds in Bougouni

During 2011, IICEM contacted the Mali Value Enhancement Network (MAVEN), as represented by Winrock International, to request their assistance in recruitment of a US Peace Corps volunteer with expertise in the construction of fish ponds, who could assist the project to resolve the problem of water loss by leakage from fishponds for an aquaculture cooperative in Bougouni, to provide technical training to cooperative members on how to prevent water loss by leakage. A total of

¹² CARANA published in 2004, IMPACT OF TRANSPORT AND LOGISTICS ON MALI'S TRADE COMPETITIVENESS and in 2011 an IICEM report on TRAQNSPORT AND LOGISTICAL COSTS STUDY FOR CEREALS.

17 individuals, including 10 members of the cooperative and 7 field staff of the government fisheries division were subsequently trained in pond construction using locally available materials, without need of either water pumps or other expensive equipment. Following the technical training, participants learned how to identify the most suitable sites (and soils) for pond construction, and cooperative members who participated in the training were able to renovate their fishponds in order to avoid water loss by leakage.

PROBLEMS/CHALLENGES TO OVERCOME

For IICEM, a major challenge going forward will be to ensure it leaves a solid and sustainable base for the continuation of FTF activities and programs. Sustainability has been part of IICEM's implementation strategy since the beginning, and building local capacity, empowering clients, and partners to continue to invest in and develop their businesses, whether small farms or semi-industrial process firms, has been at the center of its programs.

Its mandate to improve food security and increase rural revenues has been the basis for its emphasis on agribusiness development. Transforming Mali's millet, sorghum, and rice sectors from a focus on household subsistence consumption to a more market-oriented focus on increasing the proportion of commercial sales of high quality grains is the only sustainable way to address the fundamental and perennial problem of food security. According to this scenario, rural households will be better able to feed themselves due to their ability to intensify production to meet household food security needs and to increase revenues to purchase food items they do not or cannot produce themselves.

And just as importantly these 'transformed' value chains will be better equipped to address the rising food insecurity faced by rapidly expanding populations of the urban poor, who cannot produce for themselves, but will require remunerative employment to buy food, with the prospect of global, regional, and local food shortages a very real risk from year to year. The strong market-orientation of the IICEM value chain program is providing a resilient and sustainable basis for the transformation of the Malian agriculture sector into a commercial, value added sector by intensifying production, structuring transactions, building partnerships, and developing competitive markets. There can be no mistaking the fact that this is a long process which will require sustained effort and significant changes in mindsets, priorities and vision. To be successful it will need to be continued over the long term. Becoming dependent is the result of short-term (and often short-sighted) development efforts. Becoming enlightened, empowered, and innovative result from long-term strategic efforts based on building capacity and helping to create a vision to direct and focus for sustainable development .

Looking ahead to a future in which the socio-political situation of Mali is stable and an electoral process re-established, USAID/Mali needs to take a leading role in the donor community, working closely alongside the GRM to adopt policies and procedures that will create an environment that truly empowers the private sector, encouraging private sector investment, critical for future job growth. In this process, the Mission needs to work with the Ministry of Education to review the system of public education. The focus should not only be on increasing the education of girls, but also on making education relevant for everyone, ensuring that it provides the skill sets necessary to support transformational development in Mali.

LESSONS LEARNED

Anticipation of Shortages/Potential for Food Security Action

In the 2011 season, Mali received significantly less rainfall than average. This led to serious food and seed shortages through the country. USAID requested that IICEM respond through assisting with the procurement of inputs for this agricultural season for the rice, millet, and sorghum value chains. The processes to make purchases in response to this type of needs (seeds, gas, fertilizers) both through USAID restrictions and those of Abt Associates take a substantial amount of time. In order to ensure that all regulations are respected and as many producers as possible can benefit from this type of intervention in the future these processes should be started in March at the very latest. This year IICEM was able to assist Northern rice producers, but assistance intended for millet/sorghum producers in both the North and South did not make it through the regulatory processes until the rains were too far advanced to plant these crops.

Need for Consistent Sources of Quality Seed

The development of increasingly profitable and competitive value chains is dependent on the continuous availability of innovative technologies. The availability of such technologies is dependent on the existence of viable commercial demand that will ensure profitability and encourage continuous private sector investment in developing and providing innovative technology services. For cereal value chains, one of the most critical technologies necessary to support future commercial development is quality seed of increasingly productive, market-demanded varieties. The challenge is to develop not only commercial seed markets, but also the associated value chain linkages which include the operational integration of business and services necessary for the development, production and delivery (availability) of seed varieties that meet the needs of producers, processors and product end-market demand.

Over the years, USAID/Mali has helped establish and finance a network of partner institutions, including IER, USB (Unité de Semence de Base) of IER, INTSORMIL CRSP, the WASA (West African Seed Alliance) project, ICRISAT, AVRDC and others to develop improved local varieties, including hybrids, of common cereal crops grown in Mali. During 2010-2011 IICEM, in collaboration with USAID/Mali's extended partner network identified several local cereal varieties appropriate for IICEM's targeted production systems, but not nearly in the quantities needed for an eventual scaling up of IICEM program in 2013 to nearly 35,000 hectares. This limited availability of high quality seed will be a major obstacle to achieving future productivity and commercial improvements for millet and sorghum, which could enable these crops to better meet both household food security and income needs.

Through its Economic Growth Program, USAID intends to increase the productivity of staple cereal crops. A core element of this program must include the development of commercial seed value chains based on public-private investments, where public sector managed and applied research programs (jointly funded by private sector enterprises) produce appropriate genetic stock for the commercial production of an array of commercially-demanded certified seed varieties. Commercial seed businesses also need to establish seed delivery networks either in partnership with agricultural inputs providers or develop their own wholesale and retail distribution networks that will ensure that producers have access to the best seed technologies available.

Given the existing field situation where the availability of high quality seed is at best very inconsistent, IICEM's strategy to develop a commercial seed sector is to: (1) adopt a value chain approach focused on market development focused on the structural and functional

opportunities for promoting investment in a commercial seed sector, and concurrently (2) undertake field initiatives to demonstrate the productivity- and income-enhancing advantages of using certified seed of appropriate varieties. Investment in commercial seed production will only become sustainable if it accompanies the progressive development of a commercial seed market¹³ that provides high quality seeds to production systems increasingly focused on the grain sales. Targeting several local seed cooperatives and linking them to commercial grain producers could begin the process, through capacity building and technical support, of creating several seed value chain networks that could progressively move towards the production of certified seeds as a viable commercial product. The objective is to develop a demand-driven commercial seed sector that provides the latest appropriate seed technologies at a profit, while consolidating a public-private partnership involving applied research, seed quality control and sustainable input delivery.

¹³ Developing commercial seed markets could also be a collaborative effort in USAID's efforts to better integrate humanitarian and development assistance.

ANNEX 1

SUCCESS STORIES